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ABSTRACT

This report deals with the graduate school of Harvard University and focuses on the problems that have been created by the school's rapid expansion in the past 10 years. Chapter 1 defines the scope of the report. Chapter 2 examines the size of the graduate school in terms of available resources and recommends a reduction in the number of graduate students by at least 20 percent over the next 5 years. Chapter 3 deals with the admission procedures for graduate students, the availability and adequacy of financial aid, and the awarding of post-doctoral fellowships. Chapter 4 discusses the problem of low morale among Harvard's graduate students; and Chapter 5 discusses the special problems of the teaching fellows and graders. The report concludes with a summary of recommendations. (AF)

FACULTY OF ARTS AND SCIENCES
HARVARD UNIVERSITY

# Report of The Committee on the Future of the Graduate School

MARCH 1969

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## CHAPTER I

# INTRODUCTION

The Dean of the Faculty appointed this Committee in October 1967, in part because he and the Dean of the Graduate School of Arts and Sciences wished to have the Faculty consider the implications of the recent rapid increase in the number of students admitted to the Graduate School. Our assignment, proved, oddly enough, to be new in Harvard's history. As the authors of the recent Dunlop Committee *Report* point out, "It is significant that the faculty [after World War II] discussed the size of the college but not its own size or that of the graduate school." [1]

It was agreed, therefore, that the Committee on the Future of the Graduate School would consider in detail the demands imposed by increasing numbers of students upon the resources of the faculty; resources to be defined in the broadest possible sense. Our mandate, however, extended to all aspects of a graduate student's career: departmental admission practices, the competition for financial aid, the lives of graduate students in residence in Cambridge, the special problems of Teaching Fellows and graders, and post-doctoral programs. After its first meetings, the Committee sent out to all chairmen of departments and committees a questionnaire (see Appendix to this Chapter). Each member of the Committee subsequently met with a series of department or committee chairmen and obtained information on present departmental practices, and opinions on all matters of interest to us.

By mid-winter 1967–68 we had discovered that perhaps the most serious problems upon which we would have to report

[1] *Report of the Committee on Recruitment and Retention of Faculty* (May 1, 1968), p. 25.

were those concerning the morale of graduate students, both those who were Teaching Fellows and those who were not. Partly to give ourselves time to carry out these further investigations, we decided, in consultation with the Dean of the Faculty, not to try to produce a report during the academic year 1967–68. There was also a second reason for postponing the report: during 1967–68 it seemed impossible to discover in advance what would be in 1968–69 the actual impact of the new draft regulations upon the size of the Graduate School. So the earlier interviews with chairmen and departmental representatives were followed in the fall term of 1968–69 by a series of interviews and consultations with graduate students from all departments, individually and in groups.

Our work overlapped in time with that of the Dunlop Committee, which early decided to leave to us all questions concerning Teaching Fellows.[2] We are grateful to Professor John T. Dunlop for turning over to us all replies from Teaching Fellows to the questionnaire that his Committee sent to each member of the Faculty ("The Harvard Environment for Study and Living"). After the appointment of our Committee the Dean of the Faculty appointed two additional committees, whose interests also overlapped with ours: that chaired by Professor Henry Rosovsky on African and Afro-American Studies, which shared with us its views on black graduate students, and that chaired by Professor George C. Homans on the Houses which shared with us its views on graduate students in the Houses.

Because this report comes to the faculty for its consideration so soon after that of the Dunlop Committee, we think it useful to comment on the similarities and the differences between the two. Like the Dunlop Committee, we were concerned chiefly with the future well-being of a large segment of the University community, they with the faculty and we with the graduate students. But many of the Dunlop Committee's recommendations — with regard to changing the titles and structure of the faculty, or with regard to improving housing and schooling in Cambridge — are long-range recommendations, sure to remain

[2] Dunlop *Report*, p. iv.

in effect for many years. Our recommendations, on the other hand — with perhaps one or two notable exceptions — are short-range, and ought to be subject to review periodically at intervals of five years or less. Moreover, while faculty approval is as essential for our recommendations as for those of the Dunlop Committee, the actual power to put into practice either set of recommendations does not reside with the faculty as a whole. Only the President and the Governing Boards have the power to transform into action faculty approval of many of the Dunlop proposals. Only the individual departments of the faculty will have the power to transform into action faculty approval — if it be forthcoming — of most of our proposals.

Our intensive self-education in the customs of Harvard departments has taught us much. It is hard to generalize truthfully about any large number of human groups; it is almost impossible to generalize about ourselves as we are grouped in Harvard departments, those conventicles of *amour-propre* and syndicates of academic power. Much that is true for the Natural Sciences is simply not true for the Social Sciences and the Humanities. The Natural Sciences, for example, are rich — that is, individual professors in the Natural Sciences usually have research grants which enable them to finance the thesis-writing of those of their doctoral candidates not already supported by other grants, of which they have access to a wide variety. Though worried about decreases in government support for graduate research, the Natural Science departments as a group find it almost impossible to understand the problems of finding sufficient support for graduate students in the Social Sciences, where government money is much scarcer, or in the Humanities, where it is scarcer still. Neither half realizes how the other half lives. In the pages that follow we have made certain generalizations with regard to graduate study in all three areas; some of these we know are probably less true (or truer) for Natural Scientists than for Social Scientists or Humanists.

We have also been impressed by the difficulty of ascertaining precise numerical truth. Departmental figures for admissions and registrations often differ from those that the Graduate School provides for the department in question. Sometimes

one or the other, but never both, lumps new registrants with readmitted students; sometimes departments may not add in numbers of students admitted late — over the summer — with those admitted earlier; sometimes a chairman, a secretary, a dean, or even a computer makes a mistake. There are some things that nobody knows or can discover: for example, how many graduate students are employed as research assistants by how many professors in which departments? If a computer has not been taught, when paying such a research assistant, to take note that it is in fact paying such a research assistant, it simply pays him and passes on, leaving him the richer but nobody the wiser.

In the various tables and calculations that follow in this report, we are conscious that, though we have when necessary found the number of women and added them to the number of men to get a total number of students, and when necessary and possible "boiled out" the "readmits" to get a pure residue of new registrants, some errors may remain and our numbers may be only approximate. We have, however, relied on our approximations.

Mr. Thomas K. Sisson and Dr. Humphrey Doermann have assisted us from the beginning; and when we faltered, we got valuable help from Dean Reginald H. Phelps and Mrs. Nina P. Hillgarth. We also consulted an interesting study prepared by Dr. Doermann for Deans Franklin L. Ford and J. P. Elder on "Baccalaureate Origins and Performance of Students in the Harvard Graduate School of Arts and Sciences," which itself was based in part on a series of discussions with various departmental representatives. We are also grateful to Professor Walter Jackson Bate, who was an active member of the Committee during its first year.

Certain of the questions we raised in our original questionnaire proved not to warrant detailed treatment in this report. One of these is the question of attrition — the drop-out of graduate students before the completion of their Ph.D. degrees — and another is the related question of the length of time it takes to get a Ph.D. Dr. Doermann's study shows that between 50 and 60 per cent of those who now embark on Ph.D. programs

actually complete them, that the time from first registration until receipt of the Ph.D. degree averages about six and one-half years, and that the degree is awarded most usually eight to nine years after the receipt of the A.B. The drop-out rate is markedly greater for female students than for males. Dr. Doermann estimates that 65 per cent of the males who enrolled in 1959–60 have already received or may be expected eventually to receive the Ph.D. degree; 67 per cent in the Natural Sciences, 69 per cent in the Social Sciences, and 54 per cent in the Humanities.

The reasons for drop-out defy numerical tabulation. For women students, marriage and child-bearing is obviously an important one. For men and women both, lack of financial support, especially in the Humanities, is another. Flagging spirits is certainly a third. Some students ought never to have been admitted. We believe that the high rate of drop-outs means that Harvard resources are being uneconomically used, but we have come to believe that the best way to attack the problem and to decrease the number of drop-outs is to accept our recommendations in the chapters which follow: with respect to the size of the Graduate School, to admissions and fellowship policies, and to the improvement of graduate student morale. If the faculty and the departments and the administration do all the things we are asking them to do, we think that the rate of attrition will drop markedly.

We believe that the length of time required to obtain the Ph.D. degree is entirely a departmental problem, the most exclusively departmental problem we know of. Whatever we think of one another's practices is irrelevant. Any attempt from the outside, no matter how well meant, to speed up the process by setting an arbitrary number of years as a limit, we think inappropriate. Even the generous Harvard Prize Fellowships err here. One chairman writes:

The Harvard Prize Fellowships are indispensable, but they are rigged against the interests of our field. Our students normally take generals at the end of the third year, as do those in all other graduate schools. When we have to move this date up nine to twelve months the students simply get less good training. Our departmental requirement of a qualifying paper before the generals is a

major educational device and a means of eliminating those who cannot cope. For Prize Fellows we have to put this after the generals, and it is less valid educationally. The five-year limit is unrealistic, and is achieved only by the narrow student.

Like everybody else, we feel that it would be pleasant to have more students finish sooner. But here again we think that the adoption of our other recommendations may bring about the result we all want faster than efforts to interfere with departmental standards.

We were struck by the intimate connections between the main problems we dealt with. We do not think it will suffice to adopt any one group of our recommendations and let the others go. We should like to emphasize the fact that we unanimously agree on the recommendations that follow as a desirable package, and that we would deplore the adoption of some and not of others.

Early in our deliberations we decided that we should try to discover whether there existed among the Harvard faculty sentiment favoring major changes in the present system of graduate education at Harvard. Other great universities have separate graduate and undergraduate faculties. Other great universities give to the Dean of the Graduate School responsibility for a wide range of policies, including the admission of graduate students and the award of fellowships. Other great universities have created and granted graduate degrees differing in meaning from the traditional Ph.D. degree: a "Teaching Ph.D." or a "Master of Philosophy" degree, signifying usually that the recipient has completed an ordinary Ph.D. program except for the thesis. At Harvard, on the other hand, the same Faculty of Arts and Sciences has taught graduates and undergraduates; the departments decide on admissions and on other policy recommendations; and there is no degree beyond the Master of Arts except the Ph.D.

To the gratification of the Committee, and somewhat to its surprise, it encountered *no sentiment whatever* in favor of any of these possible changes in the present Harvard system, and we are therefore happy to reaffirm our own strong beliefs on

these issues, as follows. A single faculty teaching both undergraduate and graduate students is the glory of the Harvard system. We prefer a decentralized Graduate School where the departments make binding recommendations upon the Dean. We do not wish to institute a "teaching degree," and we regard the dichotomy — so often encountered — between "teaching" and "research" as a false one.

## APPENDIX

*Questionnaire Sent to all Department and Committee Chairmen in October 1967*

### I

### Before the Graduate Student Gets to Harvard

How are our graduate students selected?

Are there any variations from department to department, and what are they?

Is there any way to find talent now escaping us: specifically, to identify and attract top-flight candidates who have *not* worked in first-rate institutions or under men trained at Harvard?

How is our present treaty system working? Are other universities completely honoring agreements with regard to deadlines for applications for fellowships and admission? Are we the victims of piracy in recruiting?

Is there any better way to spot the feeble before they arrive?

What is the present ratio between those who are admitted and those who accept, department by department?

Is there any way to decrease the wastefulness of admitting many who do not accept?

What is the relationship between the relative rank of graduate students when they are admitted and their relative rank at the time they receive their degrees?

More generally: are the present selection procedures satisfactory? Should there be suggestions for any general change? Should individual departments be given the opportunity (and/or the funds) to experiment with interviews or additional selection techniques?

Should a quota be established for each department? If so, should the department itself be encouraged to determine it? Should consultation with the Dean be encouraged, recommended, required?

Should each department establish an optimal number of candidates to be admitted, and/or a maximum, with the understanding that the maximum number is fixed?

How many present entering graduate students have already had graduate work? Impact on their performance?

Can the standards of all or some (and if some, which) departments be raised? How can the operation be made even more rigorous?

## II

## The Graduate Student at Harvard

### (a)

How great a load do the present numbers impose upon departments?

Who is taking too many graduate students, and who too few, i.e. for the health of the undergraduate teaching program? Pressures on professors, libraries, laboratories?

Quotas of fellowship funds available for Humanities, Social Sciences, Natural Sciences.

How far will the new Ford money make up for the loss of the Woodrow Wilson funds?

What amounts can be reasonably expected from the various government programs, present and projected?

How big a deficit do we run per each existing graduate student?

Impact of the changes in the draft laws?

### (b)

How many Teaching Fellows are there now, at what fractions of time, department by department?

How great is each department's dependence upon Teaching Fellows for its present undergraduate teaching program?

If the number of graduate students should be curtailed and departments began to appoint more Instructors to do the teaching that Teaching Fellows now do, would not the instruction be superior?

What would this cost?

How far would the apparent increased cost be offset by the decrease in the deficit created by each graduate student?

How would a decrease in the number of Teaching Fellows affect the Prize Fellowship program, in which a two year period as Teaching Fellow has been included?

Why does the departmental acceptance of the Prize Fellowship

program vary so widely? How successful has it been? What are its problems?

What would the optimum reduction in the number of Teaching Fellows be?

What should their pay be and what the optimum or maximum fraction of their time?

What is the real history of the present discontent, how reasonable are the demands of the present "union"? How should these be dealt with?

What would a reasonable definition of 1/5 time be, department by department?

Where are the heaviest injustices in the present definition of fractional time?

Can inequities be discovered, corrected? How much would it cost?

What is the relationship of the Teaching Fellow population to the population of *graders*? Should the present pay for graders be raised and how much?

Would a new program of dissertation fellowships, especially in the Humanities and Social Sciences, shorten the time students spend as Teaching Fellows, and perhaps help to reduce the number of Teaching Fellows?

Could this be tied in with a post-doctoral fellowship program (see below)?

(c)

Is the question of the length of time it takes to get a Ph.D. still a live issue? Can individual departments maintain standards and speed up their programs by modifying certain requirements?

How near are we to a uniform five-year program, department by department?

What do we think of the Yale Master of Philosophy degree and various other dilutions of traditional Ph.D. programs?

Should the committee reaffirm this Faculty's distrust of the false dichotomy between teaching and research?

(d)

What is the present rate of attrition: what percentage of graduate students admitted, department by department, do not finish?

Do you know why? What are the most important reasons for dropping out, and is there a time that can be identified as particularly dangerous?

Can anything be done to minimize undesirable dropping out?

Could we provide more financial security if we had fewer students, and how much, if how many fewer, and would it be worth it?

## III

### Post-Doctoral

After students have obtained their Ph.D., what degree of dissatisfaction do they later manifest with their Harvard programs?

Are there any recurring elements here which we can spot, attack, eliminate?

Does the Chemistry program, using post-doctoral research fellows for tutorial, offer opportunities in other fields?

Should we consider a general new program for post-doctoral fellows?

Could such a program, for example, be made to include in a single package (1) a dissertation fellowship, (2) a two or three year term as post-doctoral fellow and Tutor with half time tutorial and half time free for research: i.e. the transformation of the accepted thesis into a publishable book or series of articles? (3) The guarantee of a research grant for a return to Harvard at a later date for a year of research leave (five years out, ten years out, or whenever)?

What would the relationship of such a program be to the Society of Fellows?

What might be the sources of funds for a post-doctoral fellowship program?

Might such a post-doctoral fellowship program be extended to men who have received their degrees from other institutions?

How well is the Harvard Graduate Society for Advanced Study and Research doing in interesting and obtaining the support of our Ph.D.s?

Is our placement program adequate and do we provide our Ph.D.s with enough continuing cradle-to-grave support for grants, new jobs, etc.?

## Chapter II

# SIZE OF THE GRADUATE SCHOOL

Between the academic year 1960–61 and the academic year 1967–68 the combined undergraduate enrollment of Harvard and Radcliffe Colleges rose by 5 per cent.[1] In the same period the number of full-time tenure members of the Faculty of Arts and Sciences rose by 15 per cent. However, the number of resident graduate students, men and women, rose by 34 per cent.[2] If we were to use 1951–52 as the base year instead of 1960–61, the percentages of increase would be 13 per cent for undergraduates, 33 per cent for full-time tenure members of the faculty, and 63 per cent for graduate students.

We believe that this increase justified the Deans of the Faculty and of the Graduate School in the apprehensions that led to the creation of this Committee. During the past seventeen years the number of graduate students has risen almost twice as fast as the number of faculty members. The burden upon the faculty has been increasing, and the expansion of the Graduate School is largely responsible for the increase. Have we been devoting to the training of graduate students some of the time we would otherwise have given to the teaching of undergraduates or to research or administration? Almost certainly. And if not, and if instead some of us have continued to divide our time as we did in 1960, adding no more to the total time we give to graduate instruction in general, then we have inevitably been forced to give far less time to each individual graduate student than we did in 1960.

We are conscious that we are merely saying in another way

[1] Admissions remained virtually constant, but fewer undergraduates withdrew or took leave of absence.

[2] See the Appendix to this Chapter.

and in somewhat stronger language what the Dean of the Graduate School said in his report for 1967:

> I am gravely concerned over the size of the School, and am convinced that not only should it not continue to grow but ought substantially to reduce its size, which would not make it a less excellent school . . . bigness *per se* is not a necessity. . . . I mean to invite [the departments] to set quotas upon themselves, and then firmly stick to them.

It is sometimes argued that bigness *is* a necessity: that Harvard has a moral and social obligation to the nation to train as many graduate students as possible. To this we reply that there are already many and soon will be more graduate schools far larger in numbers than Harvard could possibly become. We are conscious of Harvard's national obligation, but we believe we must continue to put our emphasis upon the high quality of our students rather than upon our numbers. We believe these numbers are already so far inflated that they have begun to affect adversely the quality of our graduate programs.

Had the Committee reported in 1967–68, it would probably have said that the Graduate School had increased, was increasing, and ought to be diminished. However, the year 1968–69 actually saw a dropping off in numbers, of 7 per cent in total enrollment and of 17 per cent in the size of the entering class. This decrease was in part due to the draft. Study of Dean Elder's report for 1967–68 reveals that he is not sure *what* part, and we cannot try to penetrate any labyrinth that has baffled him. While it is not at present possible to predict with any certainty the impact of the draft upon the class of graduate students that will enter in the academic year 1969–70, there seems to be a general feeling that it may be severe. The first six months of 1969 may produce draft calls almost twice as large as those for the last half of 1968. As college graduates have become eligible and therefore immediately subject to the draft, it is likely that 30 per cent more college graduates — and therefore many more candidates for graduate school — will be drafted in the next year.

Nobody can look ahead with any degree of assurance past

this melancholy prospect. But if, as we all hope, the Vietnam war comes to an end during the calendar year 1969 or 1970, the pressures on the graduate school for rapid increases in graduate enrollment, or at the very least for a return to the 1967–68 level, may be expected to be heavy. It is this situation that Harvard may expect to face for the academic year 1970–71 and subsequent years, and it is for this period that we, anticipating no immediate large-scale increase in the number of tenure faculty at Harvard, have tried to make recommendations in the paragraphs that follow. We are of course aware that Harvard is fully committed to readmitting graduate students in good standing whose careers were interrupted by the war.

As we have indicated, it was not altogether the draft that produced the 17 per cent decrease in the size of the class that entered in the fall of 1968. Many of the departments, even despite an increase in applications, heeded Dean Elder's admonitions, reduced the number of their acceptances for 1968–69, and will now receive appropriate cheers from the Dean in his report for that year.

But we do not believe the cuts went deep enough. We think a Graduate School of 3,000 or more resident students is too large for Harvard's resources. We attribute the malaise among current graduate students in part to excessive numbers. Almost all the graduate students with whom we talked complained more or less bitterly that members of the faculty were giving them too little time. Those who said that they were receiving enough personal attention to make it possible for them to push on successfully with their work, complained almost as bitterly that members of the faculty showed far too little interest in talking with them about anything except strictly business matters. We do not think such complaints would altogether disappear even if the number of graduate students was miraculously reduced to one for each permanent member of the faculty. But we do think that the climate would improve markedly — and at present it is very bad — if the Graduate School were smaller.

We believe that the malaise is worst in the largest departments, and that within the large departments it is worst in those

fields that have attracted the most students. We have various suggestions for alleviating it (see below, Chapter IV), but we do not think that even the enthusiastic simultaneous adoption of all these will prove effective unless the departments themselves proceed over a period of time to reduce the number of students they admit.

We do not think we know how big the ideal Harvard Graduate School would be, or that in these matters there are any magic numbers. But we believe that, beginning with applicants for admission for 1970–71, the faculty should proceed over a five-year period to reduce the size of the Graduate School by at least 20 per cent: from approximately 3,000 students to approximately 2,400 students. The way to do this is to cut each new class, beginning with the class of 1970–71, by 20 per cent below the 1967–68 figure.

It would be easy to recommend that for a period of five years beginning with the academic year 1970–71 all departments and committees cut their annual admissions to the Graduate School by 20 per cent below their figure for 1967–68. But we believe that this would be unfair. Certain departments — notably Mathematics and Philosophy — have either resisted the pressure to increase or have already cut back earlier increases. Certain other flourishing programs — Applied Mathematics, Biochemistry, Chemical Physics, Medical Sciences, Celtic, Linguistics, Near Eastern Languages — have increased in numbers as the result of new appointments to the faculty or of new combinations of previous appointments, and might quite reasonably object if asked to reduce their numbers in this way. Moreover (see Table 1 on page 16), the increase in numbers since 1960–61 has taken place unevenly among the three areas of Humanities, Social Sciences, and Natural Sciences.

As a more equitable way to move our numbers — over a five-year period — back toward a Graduate School of approximately 2,400 (note that the total number in 1960–61 was 2,321) we have considered proposing instead that in each of the five years beginning with the academic year 1970–71 each department and committee, with the exception of those mentioned

TABLE 1

REGISTERED RESIDENT GRADUATE ENROLLMENT BY AREA

| Area | 1960–61 | 1967–68 | Absolute Change | Percentage Change |
|---|---|---|---|---|
| Natural Sciences | 879 | 1,070 | +191 | +22% |
| Social Sciences | 824* | 1,103 | +279 | +34 |
| Humanities | 618 | 933 | +315 | +51 |
| TOTAL | 2,321 | 3,106 | +785 | +34% |

* This number includes 54 students in Anthropology, a Department grouped with the Natural Sciences in the Dean's Report of 1960–61 but since shifted to the Social Sciences.

above, admit no more graduate students than it did in 1960–61 or as an average during the three years 1959–1962. But study of the admission figures for those years indicated that in fact such a proposal would not produce the reduction we are seeking. The average entering class during those three years was almost, if not quite, as large as that for 1967–68.

However, we found that we might hope at least to approximate the 20 per cent cut that we are seeking by recommending instead that each department or committee (with the exception of Applied Mathematics, Biochemistry, Chemical Physics, Medical Sciences, Celtic, Linguistics, and Near Eastern Languages) use as its base figure for admissions in 1970–71 and the four following years the number of admissions that it actually offered in its "minimum" year, i.e., that year during the period between 1960–61 and 1967–68 in which it registered the fewest new graduate students. Table 2 shows admissions and registrations by area and department in every year between 1960–61 and 1967–68, and the "minimum" year admissions and registrations. (*See pages 18–21 below.*)

It is not possible to predict precisely the number of students admitted who will accept admission. The rate of yield seems to fluctuate unpredictably. But when one selects each department's "minimum"-intake year one finds that the total yield was 42 per cent: i.e., when one adds the students admitted in each department's "minimum" year, one finds that the total for the Graduate School was 1,352 and of those registered 572. In

more recent years, however, the yield has been more nearly 51 per cent; so that 1,352 tickets of admission might now be expected to produce roughly 687 actual new registrants. *Thus if, as we are recommending, all departments return to their "minimum" year acceptance figure, most of them may expect something like a 7 to 8 per cent increase above their "minimum" year registration figure.* Since we have calculated that an entering class of 660 to 680 of actual registrants would over five years give us a Graduate School of approximately 2,400, the "minimum" year admissions formula seems likely to come closer to achieving our aims than any other we can devise.

Table 3 relates the "minimum" year admissions and registrations by department to current acceptance yields, and compares the projected new enrollments under the Committee's recommended formula with three-year averages of actual enrollment by department between 1965–66 and 1967–68. (*See pages 22–23 below.*)

In making this recommendation, the Committee urges that it should be carried out with some flexibility in the case of those departments in which it is customary for junior (non-permanent) members of the faculty to direct Ph.D. theses, and which offer this opportunity to their junior faculty as a regular part of their work. The Committee is also aware that compliance with this recommendation may wreak unexpected hardship upon individual departments, some of which may have deliberately under-admitted in their "minimum" year in order to compensate for over-admitting or over-registering in the previous year; and others of which may represent other new programs whose "minimum" year was too small to adopt as a measure for the future. We therefore further recommend that any department so affected seek relief by consultation with the Dean of the Faculty.

We further recommend that any department which in any of the five years beginning with 1970–71 enrolls actual new entering students in a number greater than 80 per cent of those actually enrolled in 1967–68 cut its admissions for the next year by a corresponding number.

We further recommend that every department or committee whose admissions have remained stable since 1960–61 care-

# TABLE 2

## GRADUATE SCHOOL OF ARTS AND SCIENCES — ADMITTED AND REGISTERED STUDENTS — MEN & WOMEN 1960/61–1967/68
(Readmitted Students excluded)

| NATURAL SCIENCES | 1960/1 | | 1961/2 | | 1962/3 | | 1963/4 | | 1964/5 | | 1965/6 | | 1966/7 | | 1967/8 | | Lowest Year (1960/1–1967/8) Admissions and Registrations | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Admitted | Registered | Admitted | Registered | Admitted | Registered | Admitted | Registered | Admitted | Registered | Admitted | Registered | Admitted | Registered | Admitted | Registered | Year of Lowest Registration | Number Admitted | Number Registered |
| Applied Math. | 13 | 9 | 15 | 6 | 12 | 5 | 18 | 15 | 19 | 8 | 3 | 2 | 17 | 8 | 7 | 4 | 65/6 | 3 | 2 |
| Astronomy | 13 | 6 | 23 | 14 | 12 | 6 | 16 | 8 | 13 | 7 | 15 | 9 | 22 | 12 | 21 | 7 | 62/3 | 12 | 6 |
| Biochemistry | 19 | 12 | 15 | 10 | 16 | 10 | 13 | 7 | 20 | 6 | 23 | 13 | 21 | 8 | 30 | 15 | 64/5 | 20 | 6 |
| Biology | 37 | 23 | 37 | 23 | 43 | 20 | 42 | 28 | 45 | 31 | 57 | 40 | 50 | 22 | 44 | 24 | 62/3 | 43 | 20 |
| Biophysics | 6 | 2 | 13 | 8 | 8 | 2 | 12 | 7 | 18 | 10 | 9 | 6 | 14 | 7 | 14 | 7 | 60/1 | 6 | 2 |
| Chemical Physics | 7 | 5 | 4 | 3 | 6 | 3 | 5 | 4 | 8 | 3 | 6 | 5 | 11 | 8 | 14 | 10 | 61/2 | 4 | 3 |
| Chemistry | 70 | 46 | 55 | 34 | 54 | 27 | 69 | 47 | 59 | 31 | 62 | 30 | 79 | 50 | 67 | 42 | 62/3 | 54 | 27 |
| DEAP | 164 | 81 | 153 | 75 | 157 | 65 | 188 | 64 | 151 | 84 | 142 | 77 | 160 | 84 | 161 | 75 | 63/4 | 188 | 64 |
| Forest Science | ... | ... | 3 | 1 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 4 | 3 | 4 | 2 | 60/1 | ... | ... |
| Geology | 57 | 30 | 46 | 19 | 35 | 16 | 38 | 14 | 44 | 20 | 38 | 12 | 35 | 15 | 46 | 15 | 65/6 | 38 | 12 |
| Mathematics | 64 | 36 | 54 | 30 | 45 | 27 | 41 | 17 | 35 | 18 | 34 | 16 | 46 | 18 | 33 | 19 | 65/6 | 34 | 16 |
| Medical Sciences | 25 | 19 | 32 | 20 | 38 | 18 | 34 | 22 | 41 | 24 | 45 | 27 | 39 | 30 | 53 | 34 | 62/3 | 38 | 18 |
| Physics | 58 | 30 | 52 | 25 | 62 | 28 | 71 | 35 | 73 | 42 | 61 | 24 | 69 | 33 | 63 | 24 | 65/6 | 61 | 24 |
| Psychology | 24 | 8 | 24 | 7 | 25 | 15 | 20 | 8 | 24 | 10 | 18 | 8 | 22 | 10 | 24 | 10 | 61/2 | 24 | 7 |
| Statistics | 14 | 5 | 9 | 3 | 12 | 6 | 17 | 6 | 18 | 8 | 20 | 9 | 20 | 3 | 27 | 13 | 61/2 | 9 | 3 |
| Total Admitted (Natural Sciences) | 571 | | 535 | | 528 | | 587 | | 569 | | 534 | | 609 | | 608 | | | 534 | |
| Total Registered (Natural Sciences) | | 312 | | 278 | | 250 | | 284 | | 303 | | 279 | | 311 | | 301 | | | 210 |

| SOCIAL SCIENCES | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anthropology | 44 | 19 | 44 | 19 | 32 | 14 | 27 | 16 | 39 | 20 | 32 | 15 | 43 | 25 | 55 | 32 | 62/3 | 32 | 14 |
| Economics | 97 | 45 | 95 | 43 | 88 | 41 | 75 | 31 | 98 | 50 | 86 | 48 | 98 | 60 | 80 | 42 | 63/4 | 75 | 31 |
| Education | 2 | ... | 8 | 5 | 3 | 3 | 5 | 3 | 7 | 5 | 5 | 3 | 9 | 4 | 4 | 1 | 60/1 | 2 | ... |
| History | 107 | 58 | 92 | 57 | 88 | 42 | 97 | 51 | 109 | 59 | 116 | 60 | 110 | 62 | 105 | 44 | 62/3 | 88 | 42 |
| History & FEL | 1 | 1 | 2 | ... | ... | ... | 2 | 2 | ... | ... | 3 | 2 | 3 | 2 | 1 | 1 | 64/5 | ... | ... |
| Study of Religion | 34 | 19 | 33 | 20 | 19 | 15 | 32 | 19 | 38 | 17 | 30 | 20 | 32 | 17 | 28 | 16 | 62/3 | 19 | 15 |
| Hist. Amer. Civil. | 17 | 8 | 5 | 3 | 12 | 6 | 12 | 6 | 10 | 6 | 17 | 8 | 21 | 13 | 16 | 6 | 61/2 | 5 | 3 |
| History of Science | 6 | 2 | 7 | 4 | 13 | 6 | 15 | 8 | 13 | 7 | 18 | 8 | 15 | 9 | 12 | 7 | 60/1 | 6 | 2 |
| International Affairs | 11 | 8 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | 62/3 | ... | ... |
| Political Science | 67 | 38 | 70 | 26 | 75 | 29 | 74 | 32 | 80 | 40 | 67 | 34 | 79 | 45 | 64 | 40 | 61/2 | 70 | 26 |
| Middle Eastern Studies, etc. | 5 | ... | ... | ... | 4 | 3 | ... | ... | 4 | 4 | 2 | 1 | 6 | 5 | 6 | 2 | 66/7 | 2 | ... |
| Pol. Ec. & Gov. | 4 | 2 | 6 | 5 | 3 | 3 | 2 | 1 | 6 | 3 | 4 | 2 | 4 | 3 | 1 | 1 | 67/8 | 1 | 1 |
| Regional Studies – East Asia | 32 | 16 | 66 | 44 | 36 | 21 | 33 | 13 | 60 | 54 | 51 | 30 | 64 | 37 | 77 | 35 | 63/4 | 33 | 13 |
| Regional Studies – Middle East | 22 | 19 | 16 | 12 | 33 | 17 | 27 | 15 | 32 | 20 | 34 | 16 | 30 | 11 | 23 | 10 | 67/8 | 23 | 10 |
| Regional Studies – USSR | 30 | 21 | 32 | 22 | 32 | 19 | 30 | 17 | 33 | 18 | 27 | 13 | 33 | 16 | 48 | 27 | 65/6 | 27 | 13 |
| Social Relations | 64 | 42 | 59 | 44 | 58 | 32 | 65 | 45 | 64 | 38 | 59 | 39 | 82 | 49 | 82 | 51 | 62/3 | 58 | 32 |
| Total Admitted (Social Sciences) | 543 | | 536 | | 496 | | 496 | | 593 | | 551 | | 629 | | 602 | | | 441 | |
| Total Registered (Social Sciences) | | 298 | | 305 | | 251 | | 259 | | 341 | | 299 | | 358 | | 315 | | | 202 |

## TABLE 2 (*continued*)

| NATURAL SCIENCES | 1960/1 Admitted | 1960/1 Registered | 1961/2 Admitted | 1961/2 Registered | 1962/3 Admitted | 1962/3 Registered | 1963/4 Admitted | 1963/4 Registered | 1964/5 Admitted | 1964/5 Registered | 1965/6 Admitted | 1965/6 Registered | 1966/7 Admitted | 1966/7 Registered | 1967/8 Admitted | 1967/8 Registered | Lowest Year (1960/1–1967/8) Admissions and Registrations: Year of Lowest Registration | Number Admitted | Number Registered |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HUMANITIES | | | | | | | | | | | | | | | | | | | |
| Architecture | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 60/1 | ... | ... |
| City & Reg. Plg. | 2 | 1 | 12 | 6 | 7 | 5 | 3 | 1 | 8 | 5 | 6 | 4 | 10 | 8 | 9 | 8 | 60/1 | 2 | 1 |
| Celtic | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 | 1 | 10 | 8 | 6 | 4 | 6 | 5 | 60/1 | ... | ... |
| Classics | 47 | 21 | 50 | 19 | 70 | 26 | 48 | 25 | 48 | 27 | 50 | 20 | 46 | 21 | 45 | 21 | 61/2 | 50 | 19 |
| Comparative Literature | 17 | 11 | 20 | 15 | 16 | 6 | 17 | 11 | 29 | 15 | 27 | 19 | 22 | 9 | 15 | 9 | 62/3 | 16 | 6 |
| English | 85 | 46 | 113 | 48 | 131 | 64 | 171 | 85 | 129 | 61 | 138 | 64 | 136 | 71 | 124 | 55 | 60/1 | 85 | 46 |
| Far Eastern Languages | 15 | 9 | 11 | 3 | 17 | 8 | 8 | 5 | 26 | 14 | 19 | 8 | 24 | 9 | 16 | 8 | 61/2 | 11 | 3 |
| Fine Arts | 36 | 26 | 40 | 23 | 49 | 27 | 45 | 21 | 44 | 27 | 57 | 37 | 36 | 25 | 25 | 16 | 67/8 | 25 | 16 |
| Germanic Lang. | 19 | 9 | 27 | 7 | 32 | 4 | 42 | 17 | 40 | 14 | 27 | 10 | 40 | 14 | 40 | 15 | 62/3 | 32 | 4 |
| Linguistics | 16 | 10 | 20 | 12 | 17 | 9 | 26 | 14 | 34 | 19 | 27 | 14 | 30 | 14 | 33 | 14 | 62/3 | 17 | 9 |
| Music | 17 | 9 | 27 | 14 | 10 | 9 | 25 | 18 | 18 | 8 | 24 | 14 | 23 | 12 | 23 | 12 | 64/5 | 18 | 8 |
| Near Eastern Languages | 12 | 10 | 15 | 10 | 11 | 5 | 13 | 7 | 25 | 16 | 32 | 20 | 21 | 9 | 30 | 17 | 62/3 | 11 | 5 |
| Philosophy | 72 | 32 | 42 | 15 | 50 | 21 | 42 | 17 | 26 | 13 | 34 | 14 | 38 | 18 | 34 | 11 | 67/8 | 34 | 11 |
| Phil. & Classics | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 60/1 | ... | ... |
| Romance Lang's. | 59 | 26 | 79 | 29 | 75 | 31 | 113 | 37 | 122 | 59 | 81 | 27 | 127 | 65 | 167 | 70 | 60/1 | 59 | 26 |
| Sanskrit | 2 | ... | 3 | 3 | 5 | 3 | 4 | ... | 3 | 1 | 2 | 1 | 2 | ... | 8 | 5 | 60/1 | 2 | ... |
| Slavic Lang's. | 38 | 27 | 35 | 15 | 25 | 20 | 15 | 6 | 24 | 18 | 41 | 17 | 37 | 19 | 24 | 17 | 63/4 | 15 | 6 |
| Total Admitted (Humanities) | 438 | | 494 | | 516 | | 573 | | 578 | | 577 | | 598 | | 599 | | | 377 | |
| Total Registered (Humanities) | | 237 | | 219 | | 259 | | 265 | | 298 | | 278 | | 298 | | 283 | | | 160 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOTALS | | | | | | | | | | | | | | | | | | | | | | |
| Total Admitted (Humanities) | 438 | | 494 | | 516 | | 573 | | 578 | | 577 | | 598 | | 599 | | 377 | | | | | |
| Total Registered (Humanities) | | 237 | | 219 | | 239 | | 265 | | 298 | | 278 | | 298 | | 283 | | 160 | | | | |
| Total Admitted (Social Sciences) | 543 | | 536 | | 496 | | 496 | | 593 | | 551 | | 629 | | 602 | | 441 | | | | | |
| Total Registered (Social Sciences) | | 298 | | 305 | | 251 | | 259 | | 341 | | 299 | | 358 | | 315 | | 202 | | | | |
| Total Admitted (Natural Sciences) | 571 | | 535 | | 528 | | 587 | | 569 | | 534 | | 609 | | 608 | | 534 | | | | | |
| Total Registered (Natural Sciences) | | 312 | | 278 | | 250 | | 284 | | 303 | | 279 | | 311 | | 301 | | 210 | | | | |
| Total Admitted (All Areas) | 1,552 | — | 1,565 | — | 1,540 | — | 1,656 | — | 1,740 | — | 1,662 | — | 1,836 | — | 1,809 | — | 1,352 | — | | | | |
| Total Registered (All Areas) | | 847 | | 802 | | 740 | | 808 | | 942 | | 856 | | 967 | | 899 | | 572 | | | | |

# TABLE 3

## Projected New Enrollments if Minimum Year Admissions Figures Are Adopted, Compared With Actual Enrollments, 1965–68 — 3-Year Average

| Department | Lowest-Single-Year Actual New Enrollment: Year Involved | Lowest-Single-Year Actual New Enrollment: Number | No. Admitted in Lowest-Intake-Year | Times: Actual Percentage Yield, 1965/6 to 1967/8 (Avg.) | Equals: Projected Number of New Enrollments (Adjusted for recent Yield) | Number of Recent Actual New Enrollments (1965/6–1967/8; 3-Yr. Avg.) |
|---|---|---|---|---|---|---|
| NATURAL SCIENCES | | | | | | |
| Applied Math. | 65/6 | 2 | 3 | 52% | 2 | 5 |
| Astronomy | 62/3 | 6 | 12 | 48 | 6 | 9 |
| Biochemistry, etc. | 64/5 | 6 | 20 | 48 | 9 | 12 |
| Biology | 62/3 | 20 | 43 | 57 | 25 | 29 |
| Biophysics | 60/1 | 2 | 6 | 54 | 3 | 7 |
| Chemical Physics | 61/2 | 3 | 4 | 74 | 3 | 8 |
| Chemistry | 62/3 | 27 | 54 | 58 | 31 | 41 |
| DEAP * | 63/4 | 64 | 188 | 51 | 96 | 78 |
| Forest Sciences | 60/1 | ... | ... | 67 | ... | 2 |
| Geology | 65/6 | 12 | 38 | 37 | 14 | 14 |
| Mathematics | 65/6 | 16 | 34 | 47 | 16 | 18 |
| Medical Sciences | 62/3 | 18 | 38 | 66 | 25 | 30 |
| Physics | 65/6 | 24 | 61 | 42 | 26 | 27 |
| Psychology | 61/2 | 7 | 24 | 44 | 10 | 9 |
| Statistics | 61/2 | 3 | 9 | 37 | 3 | 8 |
| TOTALS | | 210 | 534 | 50% | 269 | 297 |
| SOCIAL SCIENCES | | | | | | |
| Anthropology | 62/3 | 14 | 32 | 55% | 17 | 24 |
| Economics | 63/4 | 31 | 75 | 57 | 43 | 50 |
| Education | 60/1 | ... | 2 | 44 | 1 | 3 |
| History | 62/3 | 42 | 88 | 50 | 44 | 55 |
| History & FEL | 64/5 | ... | ... | 71 | ... | 2 |
| Study of Religion | 62/3 | 15 | 19 | 59 | 11 | 18 |
| History of Am. Civ. | 61/2 | 3 | 5 | 50 | 2 | 9 |
| History of Science | 60/1 | 2 | 6 | 53 | 3 | 8 |
| Political Science | 61/2 | 26 | 70 | 57 | 39 | 40 |
| MES etc. | 66/7 | ... | 2 | 57 | 1 | 2 |
| Pol. Econ. & Gov't | 67/8 | 1 | 1 | 67 | 1 | 2 |
| Reg. Studies — East Asia | 63/4 | 13 | 33 | 53 | 17 | 34 |
| Reg. Studies — Middle East | 67/8 | 10 | 23 | 42 | 9 | 12 |
| Reg. Studies — USSR | 65/6 | 13 | 27 | 52 | 14 | 19 |
| Social Relations | 62/3 | 32 | 58 | 62 | 36 | 46 |
| TOTALS | | 202 | 441 | 54% | 238 | 324 |

TABLE 3 (*continued*)

| Department | Lowest-Single-Year Actual New Enrollment: Year Involved | Lowest-Single-Year Actual New Enrollment: Number | No. Admitted in Lowest-Intake-Year | Times: Actual Percentage Yield, 1965/6 to 1967/8 (Avg.) | Equals: Projected Number of New Enrollments (Adjusted for recent Yield) | Number of Recent Actual New Enrollments (1965/6–1967/8; 3-Yr. Avg.) |
|---|---|---|---|---|---|---|
| HUMANITIES | | | | | | |
| City & Reg. Plan. | 60/1 | 1 | 2 | 80% | 2 | 6 |
| Celtic | 60/1 | ... | ... | 77 | ... | 6 |
| Classics | 61/2 | 19 | 50 | 44 | 22 | 21 |
| Comp. Lit. | 62/3 | 6 | 16 | 58 | 9 | 12 |
| English | 60/1 | 46 | 85 | 48 | 41 | 63 |
| Far Eastern Languages | 61/2 | 3 | 11 | 42 | 5 | 8 |
| Fine Arts | 67/8 | 16 | 25 | 66 | 17 | 26 |
| Germanic L & L | 62/3 | 4 | 32 | 36 | 12 | 13 |
| Linguistics | 62/3 | 9 | 17 | 47 | 8 | 14 |
| Music | 64/5 | 8 | 18 | 54 | 10 | 13 |
| Near Eastern L & L | 62/3 | 5 | 11 | 55 | 6 | 15 |
| Philosophy | 67/8 | 11 | 34 | 41 | 14 | 15 |
| Romance L & L | 60/1 | 26 | 59 | 43 | 25 | 54 |
| Sanskrit etc. | 66/7 | ... | 2 | 50 | 1 | 2 |
| Slavic L & L | 63/4 | 6 | 15 | 52 | 8 | 18 |
| TOTALS | | 160 | 377 | 48 | 180 | 286 |
| TOTAL: ALL AREAS: | | 572 | 1,352 | 51% | 687 | 907 |

* We note that the adoption of the "minimum"-year formula by the Division of Engineering and Applied Physics would paradoxically result in an actual increase from 64 to 78 registrants: this is because in their "minimum" year (1963–64) their yield was only 34 per cent of admissions. For the Division, therefore, we recommend for the years 1970–1975 a straight 20 per cent cut in admissions from the 1967–68 figure of 161 admissions, or 129 admissions for an expected yield of 65 students.

fully consider whether it might not now wish to reduce its numbers by cutting its admissions, to some degree at least, even if the full 20 per cent cut recommended seems too high.

In the past, interdepartmental and inter-faculty graduate programs of great value and importance have often come into existence without a full realization of their probable future impact upon existing departmental resources. Students enrolled in such interdepartmental programs, for example, often wish to enter seminars offered by department members not

associated with the planning or establishment of the new program. Unprepared for the new press of numbers, these teachers have been forced either to discriminate against one group of graduate students or another, or to run the course in two sections, doubling their own commitment of time. We believe that every proposed new interdepartmental program drawing upon existing departmental resources of instruction should be carefully scrutinized by all departments likely to be involved. We believe that, at least for the five years 1970–1975, the creation of such new programs should not be allowed to mean an increase in total graduate admissions. We therefore further recommend that the number of graduate students admitted to each such new interdepartmental program should be compensated for by corresponding cuts in regular admissions to the departments involved, according to formulae to be agreed upon in each case by the departments involved.

As a group, all of whom have had much experience with graduate admissions, each in his own department, we think that departments will find the cuts we are urging in the number of their admissions easier to manage than at first appears. It should be possible as a first step to draw up as usual a list of admissible candidates in the order of preference, and then simply to cut the necessary bottom portion of this list. The difficulty here may come with "risk" or "gamble" candidates, who will then have to be moved above the cut line and replaced below it by applicants whom the department would otherwise have accepted.

We have referred in passing to the fact that "within the large departments [morale] is worst in those fields that have attracted the most students." This reflects of course the extremely unequal way in which the direction of Ph.D. theses is distributed among the members of this faculty. We reproduce here, numbered as Table 4, the table numbered V from page 112 of the Dunlop Committee *Report,* an arresting document of which that report made little use.

The statistics are incomplete because almost one third of those queried did not respond. But it seems to us likely that professors who were in fact directing a large number of theses

TABLE 4

NUMBER OF THESES CURRENTLY BEING DIRECTED BY PROFESSORS AND ASSOCIATE PROFESSORS, 1967–68

| No. of Theses | Professors & Associate Professors | |
|---|---|---|
| | Number | Per cent |
| 0 | 43 | 17.7 |
| 1 | 17 | 7.0 |
| 2 | 28 | 11.5 |
| 3 | 29 | 11.9 |
| 4 | 21 | 8.7 |
| 5 | 25 | 10.3 |
| 6–10 | 52 | 21.4 |
| 11–15 | 16 | 6.6 |
| 16+ | 12 | 4.9 |
| (No Response) | (79) | |
| Total | 243 | 100.0 |

would have been more inclined to respond than not, and that among the non-respondents it would be safe to assume that there was a preponderance of those who were directing few theses. We therefore believe that the true figures, if obtainable, would show an even more striking maldistribution than the figures we have. What we have, however, is striking enough.

The figures show that 56.8 per cent of the tenured faculty were directing four theses apiece or fewer, while the heaviest loads (over ten theses each) fell upon twenty-eight individuals or only 11.5 per cent of the faculty. Once again, we do not think that there are any magic numbers, but we are sure that not even the twelve supermen among our colleagues can each effectively direct sixteen theses or more, and that it would be a fine thing if the forty-three professors or 17.7 per cent of the faculty who were directing no theses at all could in fact have been sharing the privileges and burdens of this intensely important part of our work.

Recognizing that a major change will be difficult to effect, we none the less think that every effort should be made to correct this uneven distribution. True, it is often impossible at

the moment when a graduate student is admitted to predict what will be his future thesis-field and who will be his future thesis-director, but it is also often possible. Departmental admissions officers, especially in the large departments, should try not to let the large fields (Modern European History, Nineteenth-Century English Literature, and the like) become overcrowded. The measures we have recommended for the reduction in size of each new entering class of graduate students would, if adopted, give such officers an opportunity to make heavy cuts particularly in the overcrowded fields.

Moreover, the overburdened professors themselves should enact personal self-denying ordinances. Nobody *has* to direct sixteen theses or more, and we reiterate our conviction that nobody should do so. In many such cases, the individual graduate student is being shabbily treated; the individual professor is courting thrombosis. We view with wonder the Mathematics Department's practice of limiting each thesis-director's theses to one nearing completion each year; but realize that this is a standard to which few outside the field will find the strength to repair. It should, however, be kept in mind: we were astonished when we heard of it, and we publish the fact here to enable our fellow non-mathematical colleagues to share our emotions.

Without lowering standards, it should be possible to select at the time of admissions certain applicants who seem likely to wish to work in the less crowded fields, and after admission to persuade or exhort certain others to do so, thus distributing the burdens and responsibilities more effectively.

Finally, it seems to us that in those cases where, over a period of years, it may prove impossible materially to decrease the number of thesis-writers in a given field within a department, the department should redistribute its allotment of permanencies and give priority to the overcrowded fields when making its new permanent appointments, even at the cost of sacrificing traditional patterns of coverage.

Finally, we recommend that the above policies, if adopted, be carefully reviewed at the latest in 1975–76, five years after their initiation, and earlier if desirable.

# APPENDIX

## Relative Growth of Harvard College, the Harvard Tenure Faculty (Arts and Sciences), and the Harvard Graduate School of Arts and Sciences between 1960–61 and 1967–68

| Item | 1960–61 | 1967–68 | Absolute Change | Percentage Change |
|---|---|---|---|---|
| Undergraduate Enrollment: | | | | |
| Harvard | 4,596 | 4,828 | +232 | +5% |
| Radcliffe | 1,152 | 1,207 | +55 | +5 |
| Total | 5,748 | 6,035 | +287 | +5% |
| *Faculty of Arts & Sciences Tenure Members (full-time-equivalent number calculated from salary ledgers of teaching departments in the Faculty of Arts and Sciences and the Division of Engineering and Applied Physics) present & teaching: | 226 | 259 | +33 | +15 |
| Resident Graduate Enrollment: | | | | |
| Harvard (men) | 1,864 | 2,412 | +548 | +29 |
| Radcliffe (women) | 457 | 694 | +237 | +52 |
| Total | 2,321 | 3,106 | +785 | +34 |

* The numbers of full-time-equivalent tenure faculty members enumerated above do not include fractions of salaries paid from teaching department budgets to men on leave, do not include fractions paid from essentially non-teaching budgets, and do not include fractions paid from government contracts. Also, figures are shown here only for tenured members of the faculty.
In the Natural Sciences, it is not unusual for Ph.D. theses to be directed by members of the faculty without tenure. This is rare in the other areas, however, and the statistics in this table could not readily be adjusted to take this practice into account.

## CHAPTER III

# ADMISSIONS, FINANCIAL AID, AND POST-DOCTORAL FELLOWSHIPS

## Part 1. Admissions

Members of the Harvard Faculty enjoy their work with graduate students, but often find their undergraduates more intelligent, original, lively, and rewarding. Graduate students are found to be less gifted and engaging, if more highly motivated. Even Teaching Fellows, graduate students themselves, agree with this view.[1] "What becomes of the 'Summas'?" "Do *all* the bright undergraduates *have* to go to Law School?" These are standard questions among faculty members. In fact, a good many of the former bright undergraduates are right here in Graduate School, but some of them no longer seem as intelligent and able as they used to. "How could we have let *him* in two years ago?" professors will ask each other after an unusually disappointing performance by a graduate student on his general examinations, and then answer their own question with some version of the formula that experienced admissions officers have so painfully learned, "When you admit a man you can tell what he *can* do, but you can't tell what he *will* do."

For some students, admission to Graduate School is in itself the goal, and having achieved it they blissfully abandon whatever habits of study may have qualified them for admission.

[1] As part of its general faculty questionnaire, the Dunlop Committee asked both the tenure faculty members and the Teaching Fellows to give their views of Harvard graduate and undergraduate students with respect to intellectual quality, on a five point scale from "gifted" to "marginal"; with respect to seriousness of purpose on a similar scale from "motivated" to "indolent"; with respect to personality on a scale from "engaging" to "boring"; and with respect to motive for work on a scale from "overly grade-conscious" to "indifferent to grades." For the tabulation of responses, see below, page 34.

For most students, the competition for admission to Graduate School is only the latest in a series of competitions in which they have been entered almost since birth: for kindergarten, for secondary school, for college, for graduate study. It is perhaps little wonder if some of them have become cynical or have run out of steam. The expectation in our society that students will continue directly from college to graduate study has grown in recent years by quantum jumps.

Moreover, there are some real but little-noticed differences between graduate study in law or medicine or business or architecture on the one hand and graduate study in Arts and Sciences on the other. The transition between undergraduate experience and a professional school is often abrupt, and is expected to be abrupt. Law and medicine are "hard." Law students and medical students spend all their waking hours, and most of those reserved by happier men for sleeping, on work, work, work. And after all, is not graduate study in Arts and Sciences a simple continuation of the happy college experience, just a chance to concentrate a little harder upon the subject that one did best at college? No, it is not. But many graduate students in these fields expect that it will be, and therein lies some of our trouble. Always "good at English," or — even worse — always having "found English fascinating," such students do not easily adjust to the rigorous professional standards now demanded of them. When the demand comes from the very same professors with whom they had worked as undergraduates (often the case at Harvard and Radcliffe), the trauma can be still more severe.

For any or all of these reasons, or for others we have not thought of, then, many graduate students who looked promising "on paper" before they were admitted prove disappointing after they get here. The History Department, for example, which has had more five-year Graduate Prize Fellows per year (25) than any other department, has often found the performance even of these specially picked students, at the very top of the preferred list for admission, falling far below what had confidently been predicted. Perhaps 50 per cent of the Prize Fellows sail through with colors flying as the department had expected, and

perhaps 25 per cent drop out for one reason or another, but the remaining 25 per cent do less well than other students who have been denied the prizes. Needless to add, a student without a prize, who sees that his own work is markedly superior to that of a student who has won the prize, regards the system as unfair. All the more so, since the prize includes the virtual guarantee of a two-year Teaching Fellowship during the third and fourth year of graduate study, and an inferior prize-fellowship-holder must then be preferred for a Teaching Fellowship to a superior student who failed to make his superiority apparent at admission time.

Some would say that 50 per cent success in prediction is pretty good, and add that these *are* excellent students, and that, by general agreement both inside Harvard and out, the Graduate School of Arts and Sciences does indeed attract a very high percentage of the ablest future scholars in the United States. We agree. But could we do still better? We have asked all departments to reflect on this question.

Our present admissions procedure produces for each applicant a folder containing a transcript of his undergraduate record, three letters from academic referees, and a statement of interests and purposes from the candidate himself. There is not much that all Harvard departments agree upon, but they do agree that the most useful possible item is a letter about the applicant from one of his teachers favorably known to the departmental admissions officers here. Some such referees are former students or former colleagues; others are fellow-scholars whose own achievements command respect and whose opinions of their own students' promise reflect standards shared by the Harvard faculty. An applicant highly recommended by the several such referees has a powerful advantage.

If a candidate lacks such referees but has gone to a college or university where the department or program in his proposed field of study is well-regarded, he still has a good chance. In the least favorable position for admission is a candidate from an institution where neither the department nor the faculty is known at Harvard. "Our best man in twenty years," "If you don't take this man, we doubt that you will ever accept one

from this college," and similarly ardent endorsements often elicit little more at the Harvard end than inability to interpret the message. All departments occasionally gamble on such a candidate, and those who do are often very glad they did. But in most cases they will not admit him until he has proved himself by a year's graduate work elsewhere. Almost one-third of our entering students have now had such a year.

Faculty sentiment with regard to present admissions procedures ranges from satisfaction to extreme discontent. The Music Department is so far alone in requiring that all its applicants take a preliminary examination, given annually in universities all over the world, in theory, history, harmony, and counterpoint, supervised in each case by a person to whom the department pays a proctoring fee. This enables the department to judge for itself the preparation of each candidate, and not to suffer as a result of widely varying standards. (The Harvard Chemistry Department does give preliminary examinations in the several fields of chemistry, but only to first-year students who have already been admitted and are in residence. The Department of Statistics requires each applicant to fill out a special additional sheet giving details of his previous training in mathematics).

Virtually the only device widely proposed as even remotely likely to improve our choice of candidates is the preliminary interview. Some departments (Government, Economics), which think the present procedures are inadequate, none the less view with loathing the possibility of interviews. Others (Anthropology, American Civilization, Linguistics, Social Relations) would like to experiment with them, and still others (Slavic, Far Eastern Languages, Near Eastern Languages) would like to interview the likeliest candidates after sifting through the applications. "I believe we could avoid the few real errors we now make," one chairman commented, "if interviews could be managed at that stage of the selection process." The Statistics Department would like to arrange for interviews with all foreign applicants in order to avoid the occasional tragedy that has taken place when a foreign candidate apparently well-prepared has proved unable to stand the pace here.

Some voices were raised in the History Department, which annually has a number of applicants far too numerous to interview, in favor of an experiment by which recent Ph.D.s from the department, who had begun their teaching careers at various other colleges and universities throughout the country, might be enlisted as a paid corps of interviewers to talk with and report on applicants from their institution or from the general region of their institution. Careful reports by such men, fresh from their own Harvard experience, might, it was felt, provide just the kind of estimate of a candidate that we now lack and that would prove most useful in determining what he would do here as well as what he could do. Those who propose the scheme believe the cost "would represent only a fraction of the money now wasted on fellowships given to students who drop out early."

A good many departments (e.g., Biology, Medical Sciences, Geology, and most others) already interview occasional candidates informally, if they come to Cambridge to inquire about graduate study at Harvard. Comments on these interviews range from the enthusiastic to the lukewarm. ("We encourage interviews, but they only occasionally help.") It should be pointed out also that a proposed systematic program of preliminary required interviews for Chemistry not long ago was interpreted by Harvard's chief rivals as a recruitment program, which they threatened to counter by vigorous recruitment programs of their own. Chemistry, and perhaps other science departments, would therefore oppose interviewing.

Before coming to our single (and obvious) recommendation, we must ring another mournful warning bell. It is quite possible that if applications for graduate education increase during the next decade, as they are expected to do by most of the best-qualified observers, the writing of precisely the kind of letter of recommendation on which Harvard departments now chiefly depend may become in fact what it already often seems: an intolerable burden. We shall not like it if we must then draw our information about our applicants from a kind of single central impersonal computerized data bank, designed to fulfill the needs of all institutions, not ours alone. There

are some reasons for thinking that this may not happen, and others for thinking that if it does happen it may not be as bad for us as would appear at first sight.

But it will be bad if it happens. We shall continue to want something more personal, something more revealing, something by which we can reach an estimate, however crude, of what a student will do as well as what he can do. Therefore, contemplating the rather unattractive near-future, we think that those departments at Harvard which will have tried the experiment of personally interviewing applicants for admission to graduate study — or at least those applicants who survive a preliminary round or two of eliminations – may find themselves the best prepared to face a new, less personal, system and the best able to continue to select at least the present proportion of candidates qualified to be successful in the end.

We recommend, therefore, that the Dean of the Faculty consult with any department of this faculty which would like to experiment with interviewing here or elsewhere some or all of its prospective graduate students, and provide the funds necessary for such an experiment.

## APPENDIX A

### Percentage Distribution of Responses of 227 Tenure Faculty Members (Arts and Sciences) Concerning Their Views of Harvard Graduate and Undergraduate Students, December 1967

| | | Range of Response Elicited on 5-point scale | | | | |
|---|---|---|---|---|---|---|
| | | Gifted | 2 | 3 | 4 | Marginal |
| Intellectual Quality: | Graduates | 30.8 | 54.3 | 12.3 | 2.6 | . . . |
| | Undergraduates | 63.6 | 31.4 | 5.0 | . . . | . . . |
| | | Motivated | 2 | 3 | 4 | Indolent |
| Seriousness of Purpose | Graduates | 52.1 | 41.2 | 5.8 | 0.9 | . . . |
| | Undergraduates | 36.1 | 50.5 | 11.1 | 2.3 | . . . |
| | | Engaging | 2 | 3 | 4 | Boring |
| Personality (one dimension): | Graduates | 17.8 | 45.4 | 32.0 | 4.4 | 0.4 |
| | Undergraduates | 43.3 | 42.3 | 13.5 | 0.9 | . . . |
| | | Overly grade-conscious | 2 | 3 | 4 | Indifferent to grades |
| Motive for Work (one dimension): | Graduates | 24.0 | 39.0 | 30.8 | 5.8 | 0.4 |
| | Undergraduates | 15.4 | 42.1 | 39.7 | 2.8 | . . . |

## APPENDIX B

### Percentage Distribution of Responses of 368 Teaching Fellows Concerning Their Views of Harvard Graduate and Undergraduate Students, December 1967

| | | Range of Response Elicited on 5-point Scale | | | | |
|---|---|---|---|---|---|---|
| | | Gifted | 2 | 3 | 4 | Marginal |
| Intellectual Quality: | Graduates | 35.5 | 45.6 | 14.2 | 4.4 | 0.3 |
| | Undergraduates | 42.5 | 47.4 | 7.9 | 1.9 | 0.3 |
| | | Motivated | 2 | 3 | 4 | Indolent |
| Seriousness of Purpose: | Graduates | 42.6 | 43.7 | 11.2 | 2.2 | 0.3 |
| | Undergraduates | 16.6 | 52.3 | 26.2 | 4.9 | . . . |
| | | Engaging | 2 | 3 | 4 | Boring |
| Personality (one dimension): | Graduates | 9.3 | 33.5 | 29.3 | 22.1 | 5.8 |
| | Undergraduates | 37.3 | 44.6 | 14.5 | 3.3 | 0.3 |
| | | Overly grade-conscious | 2 | 3 | 4 | Indifferent to grades |
| Motive for Work (one dimension): | Graduates | 29.3 | 32.6 | 23.0 | 11.5 | 3.6 |
| | Undergraduates | 11.7 | 44.3 | 36.3 | 7.4 | 0.3 |

## Part 2. Financial Aid

Financial uncertainty has an adverse effect on our capacity to recruit the ablest graduate students and on the morale of the students who do enroll here. Under current procedures, most Harvard scholarship holders (except for Graduate Prize Fellows) are assured financial support for only one year. In seeking a second-year renewal they enter a new competition, and their success in that competition depends heavily on the grades they earn in the four half-courses of the fall term. The same uncertainty is likely to plague them when they make their third-year plans; and in some cases it is an annual problem throughout the period of graduate study. This is an uncomfortable and unattractive situation. It may also be, at least in part, needless.

The ideal would be to guarantee adequate financial support for four or five years to any graduate student who is good enough to be admitted and to maintain satisfactory progress toward the doctorate. Some of our keenest rivals among graduate schools already extend this assurance. This Committee suspects that Harvard could do so, too, if we were sufficiently willing to gamble. When present financial-aid sources, including Teaching Fellowships, research assistantships, and scholarships were added up, we might find that practically all who need support get it. If so, the annual crises are unwarranted and ought to be eliminated.

The matter is so complex however that it is hard to be confident about the degree of uncertainty involved. In order to explain the complexities, it is necessary to go into some detail about the distribution of need and support among our present graduate student body. As the accompanying tables show, there are, in 1968–69, 2,872 students in the categories from 1G through 5G. The current tuition rate is $2,000 for an entering student, and the assumed minimum for his living expenses is $200. per month. The standard rate for a "full" scholarship is thus $3,800 per year — i.e., tuition plus $200 per month for the nine months of the academic year. Graduate Prize Fellows receive more than this: usually $2,400 per year plus tuition, which ordinarily means in each of the first two years a total of $4,400. When the residence requirement has been completed,

tution drops to $500. For 1969–70 the full tuition rate will rise to $2,400 and the reduced tuition, after residence is completed, will become $600. The following analysis, however, is based on the present tuition rates, because we are dealing with figures for the present academic year. (We assume that each scholarship will be increased by the amount of the tuition increase.)

Appendix A, on p. 42, shows the known sources of support for the present graduate student body from 1G through 5G. Appendix B, on p. 43, shows the distribution of "Harvard awards" into various categories, again from 1G through 5G. It is worth noting that about 80 per cent of the money for the Graduate Prize Fellowships is derived from a Ford Foundation grant which is scheduled to expire after 1971–72, and that there is also some ground for uncertainty whether government-supported fellowships will hold at present levels. The Committee has made its calculations on the assumption that those levels will be maintained and that the Ford grant will be renewed or compensated by money from other sources. But the fact that it is an assumption illustrates the incertitudes we face in this field.

A different kind of imponderable also deserves mention. We know that a significant number of our graduate students are supported in part or in whole by research assistantships. These are of course a particularly important factor in the sciences and in some of the social sciences. But it seems impossible to obtain even an approximate guess about the number of students so supported or the total money involved. At any rate we have been unable to obtain it, and without it no one can draw up a completely reliable accounting of student needs and available resources.

Formidable as such perplexities are, the Committee believes that the University could safely guarantee a second-year of scholarship support to every student entering on a Harvard scholarship and achieving a satisfactory level of academic performance in the first year. As the accompanying tables show, among first-year students in 1968–69, 40 per cent were supported by Harvard scholarships. If we assume an entering class of 687 (the norm which the Committee has recommended), and if the same percentages are maintained, 274 of those students

would have Harvard Scholarship support. If we further assume an attrition of 15 per cent among those 274 for the second year (and this figure is probably low), 41 of them would drop out, leaving 233 to receive second-year support. The average stipend for second-year scholarship holders in 1968–69 was $3,440, and the total expended on them was $764,000. In our putative second-year class the 233 scholarship holders would, at this rate, cost only $37,520 more — a total of $801,250 — even if all of them continued on scholarship support. However, this reckons without the likelihood that some of them would shift to Teaching Fellowships.

It will be observed (see Appendix A) that in 1968–69, 189 second-year students were Teaching Fellows and that the amount paid in salaries to those students was $248,507. This figure should be augmented by another $109,155 which was paid to second-year students in the form of Staff Tuition Scholarships. These are scholarships, granted upon request to most Teaching Fellows, which defray all or most tuition costs. In short, the total paid out this year in scholarships (regular and Staff Tuition) to second-year students was $873,105. In scholarship payments alone this is more than enough to support the future second-year group we are concerned with. When the payments for Teaching Fellow salaries in the second year are added, $1,121,612 is available.

There seems little doubt then that the anticipated sources of support are more than adequate to cover a second-year guarantee at the time the initial Harvard scholarship is granted. This would of course eliminate uncertainty at one of the critical junctures in a graduate student's career, and would to that extent improve morale. It would also eliminate the academically dubious procedure of judging a man on the record of a single, initial term.

What are the prospects for carrying the guarantee further, into later years? Could it be extended into the third year, or perhaps even through the fifth year of graduate study?

It is tempting to say that the answer may well be "yes." To follow up the analysis of the preceding paragraphs: our second-year class of 233 becomes, assuming again an attrition of 15

per cent, a third-year class of 198. The minimum standard scholarship grant now drops to $2,300 — $1,800 for nine months plus $500 tuition (it can be assumed that all third-year men will pay the reduced tuition). The total needed to support the 198 is then $435,600. In 1968–69 there was paid to third-year students $178,191 in regular Harvard scholarships. This seems to leave us with a substantial deficit of $282,000. However, the third year is the one in which students move very heavily into Teaching Fellowships. In 1968–69, $641,021 was expended on Teaching Fellow salaries for third-year students. Another $74,520 was paid out in Staff Tuition Scholarships. The amount available to Teaching Fellows in the third year was thus $715,541. It would not be unreasonable to say that $280,000 of this — much less than half — could go to support Ph.D. candidates who originally entered Harvard on our scholarships and who then maintained creditable records. If it were so earmarked, our third-year class of 198 could be covered; which is to say that the initial guarantee could reach into the third year.

Similar calculations can be made about the fourth and fifth years. Our class of 198 now drops another notch to 168, if the same attrition rate is assumed. At $2,300 per head, the total need is $386,400. In 1968–69, fourth-year men receive $180,660 in regular Harvard scholarships, $47,270 in Staff Tuition Scholarships, and earn as Teaching Fellows $458,030. Again the total from these sources would handily cover the needs, and again this is true even before we take into account research assistantships which undoubtedly increase in number in the fourth year. As for the fifth year, the case seems even easier; for the attrition rate rises sharply in that year.

If such a case can be made for the proposition that a five-year guarantee is financially supportable, and if we believe (as the Committee earnestly does) that the guarantee would be desirable, why should it not be established forthwith? There are several reasons for recommending caution. In the first place there are those already referred to — the uncertainties that present resources for scholarship support will be maintained. A second reason is concealed beneath the figures that

have just been analyzed. It is that the sums for Teaching Fellow salaries are not distributed evenly among departments. Because of the organization of their courses and their concentration programs, some departments use Teaching Fellows in smaller proportion than others. Such departments could not in the nature of the case offer a guarantee based on the expectation that all entering scholarship holders would ultimately be in large part supported by Teaching Fellowships: there would not be enough departmental Teaching Fellowships to honor the guarantee.

A third reason is related to the last, but is separable and may be subject to at least partial correction. The fact is that the calculations based on the sum of Harvard scholarship expenditures and Teaching Fellow salaries are to some degree deceptive. In practice these two figures often overlap, so that, for example, a man receiving a standard scholarship of $2,300 in the third year ($1,800 plus $500 tuition) will also hold a one-fifth teaching fellowship earning $1,500. Moreover, a man holding an "outside" fellowship (e.g., National Science Foundation, Danforth) which provides him full support through his graduate career may also hold a Teaching Fellowship — up to one-fourth or $1,750 under present rules. The teaching fellowship money actually available for supporting a given number of students is obviously reduced when scholarships and Teaching Fellowships are thus "pyramided" by some.

In individual cases such pyramiding may simply be a response to urgent departmental need. The student who holds a Danforth may also be the only man who can fill a teaching gap, or he may at any rate be distinctly better for the purpose than another who does not have a Danforth. When this is so, it may be justifiable to hire him. To make a fiat rule against it would handicap the department in doing its job. But we suspect that the pyramiding is often not warranted by such considerations. When it is not, it is certainly unfair. We do not suggest that a man who adds a $1,500 Teaching Fellowship to his basic $200 per month has reached dizzy heights of affluence. But we do suggest there is inequity if a worthy fellow student is, as a result, denied any support at all.

The difficulty is that we cannot be sure how greatly this pyramiding factor upsets expectations about available resources. We can make some guesses. In 1968–69, for example (see Appendix C, p. 44), 114 students held both a Harvard Scholarship and a Teaching Fellowship. In the same year, 146 students held both an "outside" scholarship and a Teaching Fellowship. To express it in money terms, these students were receiving $801,405 in scholarship grants but were also drawing $353,295 in salaries as Teaching Fellows. How many of them actually needed the money they were paid either in Harvard Scholarships or Teaching Fellowship salaries in order to bring them to a reasonable subsistence level? How many of them were using the pyramiding principle to lift their incomes substantially above subsistence, so that another student was denied either a Teaching Fellowship or Harvard Scholarship aid? In how many cases was the pyramiding justifiable on the basis of special departmental or course demands? We can conjecture that the number is considerable in each category. But we cannot really know how much money would be released by eliminating true inequities until we know how many of these true inequities there are. The questions probably must be answered department by department, and perhaps man by man.

For all these reasons, then, we doubt that the University is quite ready to offer the full five-year guarantee to all of its scholarship holders. The Committee does believe, however, that the guarantee is much to be desired and not far out of reach. We therefore urge that the mandate of the Committee on Fellowships and Other Aids for graduate students be broadened so as to include the pursuit of this aim. The Committee should obtain more solid information about the role that research assistantships play in supporting graduate students and should act as watchdog over the pyramiding problem just discussed.

We find it hard to believe that Harvard lacks the means to do what its supposedly less wealthy competitors have succeeded in doing. Nevertheless, our calculations and conclusions in this section have been manfully self-restrained. But we would be sorry if our restraint obscured our conviction that the guaran-

tee may be feasible in the near future and that all members of the University should work for it as hard as they can.

In summary, the Committee recommends:

1. That all Harvard Scholarships be offered with a guarantee of renewal in the second year, provided that satisfactory progress toward the Ph.D. is maintained.

2. That the Committee on Fellowships and Other Aids for Graduate Students be explicitly directed to make inquiries and take vigorous action leading toward the establishment of a five-year guarantee in the near future.

## APPENDIX A

### Known Sources of Financial Support for Harvard Graduate Students in Arts and Sciences in the First through the Fifth Year of Study (1G through 5G), 1968–69 *

(Numbers of each kind of award or payment are shown in parentheses. Some students receive several kinds of support and others receive none; therefore the numbers of awards, if added horizontally, will not equal the total number of students in the right hand column.)

| Graduate Student Classification by Year | Harvard Scholarships and Fellowships (Excluding Teaching Fellowships) | Major Government Fellowship Programs (NDEA, NSF, NIH, etc.) | Other Outside Fellowships | Awards to Teaching Fellows | | Totals (Total Numbers of Students at Each Year Level Are in Parentheses) |
|---|---|---|---|---|---|---|
| | | | | Teaching Fellowships | Staff Tuition Scholarships | |
| First Year (1G) | $932,000 (287) | $976,383 (193) | $221,021 (74) | $93,887 (79) | $37,220 (32) | $2,260,511 (717) |
| Second Year (2G) | 763,950 (222) | 926,270 (220) | 305,321 (79) | 248,507 (189) | 109,155 (79) | 2,353,203 (677) |
| Third Year (3G) | 178,191 (116) | 757,393 (239) | 100,125 (32) | 641,021 (324) | 74,520 (141) | 1,751,250 (662) |
| Fourth Year (4G) | 180,660 (90) | 485,254 (120) | 84,735 (26) | 458,030 (229) | 47,270 (93) | 1,255,949 (504) |
| Fifth Year (5G) | 124,442 (56) | 201,002 (50) | 46,630 (17) | 301,427 (111) | 38,030 (81) | 711,531 (312) |
| Total, First through Fifth Years | $2,179,243 (771) | $3,346,302 (822) | $757,832 (228) | $1,742,872 (932) | $306,195 (426) | $8,332,444 (2,872) |

* This table does not include loans, payments to graduate students for work as research assistants, and does not include a small number of scholarship awards made for the summer term only. Fellowship amounts in the first three columns above include payments for tuition in those instances where the terms of the fellowship award also includes provision for tuition.

## APPENDIX B

# Distributed Harvard Awards by Sources of Funds, 1968–69, 1G through 5G

| Fund | First Year (1G) | | Second Year (2G) | | Third Year (3G) | | Fourth Year (4G) | | Fifth Year (5G) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Amount | No. | Amount | No. | Amount | No. | Amount | No. | Amount |
| Unrestricted | 76 | $230,000 | 56 | $143,952 | 75 | $100,928 | 41 | $44,765 | 31 | $54,200 |
| Restricted Endowments | 70 | 180,000 | 39 | 117,399 | 28 | 54,893 | 29 | 60,295 | 14 | 42,695 |
| Graduate Prize Fellowships | 108 | 430,000 | 107 | 439,237 | | | 11 | 53,100 | 6 | 22,200 |
| Other Harvard Sources | 9 | 22,000 | 1 | 3,500 | | | | 2,500 | 1 | 1,000 |
| Sources Administered by the General Committee | 24 | 70,000 | 19 | 59,862 | 13 | 22,370 | 8 | 20,000 | 4 | 4,347 |
| Totals | 287 | $932,000 | 222 | $763,950 | 116 | $178,191 | 90 | $:80,660 | 56 | $124,442 |

Total Number of Harvard Awards (1G through 5G): 771

Total Amount of Harvard Awards (1G through 5G) $2,179,243

## Appendix C

# Teaching Fellows also Holding Scholarships and Fellowships, 1968–69, 1G through 5G

| Graduate Student Classification by Year | No. Students | Amount of Teaching Fellow Payments | Amount of Scholarship Payments | Amount of Staff Tuition Scholarship Payments |
|---|---|---|---|---|
| 1a) Teaching Fellows Holding Harvard Scholarships | | | | |
| 1G | 14 | $15,753 | $28,550 | $5,355 |
| 2G | 32 | 42,175 | 82,289 | 12,240 |
| 3G | 40 | 65,275 | 61,406 | 6,750 |
| 4G | 22 | 57,825 | 51,796 | 6,750 |
| 5G | 6 | 10,650 | 10,720 | 500 |
| Total: 1G through 5G | 114 | $191,678 | $234,761 | $31,595 |
| 1b) Teaching Fellows Holding Government Fellowships | | | | |
| 1G | 18 | $17,344 | $72,535 | . . . |
| 2G | 32 | 28,672 | 147,550 | . . . |
| 3G | 49 | 53,188 | 156,816 | 500 |
| 4G | 35 | 45,088 | 116,476 | . . . |
| 5G | 12 | 17,325 | 40,672 | 1,000 |
| Total: 1G through 5G | 146 | $161,617 | $534,049 | $1,000 |

## Part 3. Post-Doctoral Fellowships

The post-doctoral fellow is by no means new to Harvard, but his presence in large numbers in the past ten years has represented one of the most rapid areas of growth in the University. About half of the approximately 600 post-doctoral fellows are in Medical Sciences, and the others are mainly distributed among the Natural Science departments, notably Chemistry, Biochemistry, Physics and Astronomy. In these areas the post-doctoral fellowship has become a natural link in the educational process following the Ph.D. (or M.D.) and preceding employment in a university or industry. A year or two of post-doctoral experience in the sciences is almost expected by both academic and industrial employers.

In Chemistry, for example, this is because, at the same time that large Federal support for research has become available, all areas of chemical investigation have become highly instrumented; the earlier regions of specialization (analytical, biochemical, organic, inorganic and physical) have become integrated and reclassified more generally (structure, reactions and synthesis, molecular-biological, coöperative phenomena), and the rate of new discoveries has greatly increased. As the known areas became more organized, new areas developed rapidly, and the investigator who can bring to bear the maximum of total knowledge, rather than specialized knowledge, has emerged as the major research contributor. During the same time, the A.B. or B.S. has come to mean less than before; the M.A. or M.S. degree has all but disappeared; and the Ph.D. has become less uniformly a criterion of truly original work on the part of the candidate himself. (Recognition of these trends does not imply approval of them.) Universities, research institutions, and certain industrial laboratories in search of truly independent research staff began to depend on the pool of post-doctoral fellows rather than on that of fresh Ph.D.s. Even the highly original Ph.D. can now go into a more desirable position, with no loss of salary, after demonstrating further his research ability as a post-doctoral fellow.

It is hard to define a general pattern for post-doctoral fellows. Some develop further in the directions in which they

started their Ph.D. work, while others use the post-doctoral years for development in a new area. Most of them do achieve the ideal of development from dependence to independent research effort, although they do so with the benefit of ideas, background, techniques, and courses available from the graduate students and faculty.

The post-doctoral fellow often is able to work in a new area of research which involves greater risk than that which would normally be taken by a graduate student. Furthermore, he often brings new ideas and techniques of his own or those from another laboratory into the research group that he enters, and he is one of the most important factors in the constant rejuvenation of ideas and shifting of areas which must occur in order that a department maintain its leadership.

In addition, there are specific contributions which many post-doctoral fellows make in the educational process for others. He is of constant help to graduate students. He gives a number of colloquia and casual lectures on a research topic or in a course. In Chemistry and Biochemistry he is used in the undergraduate tutorial program, and for partial research supervision of undergraduates. Nor should one overlook the stimulation of the faculty or of his own post-doctoral colleagues as a contribution. In the areas where he is present in unusually large numbers he has been integrated into the total research and teaching effort.

In the Chemistry Department the post-doctoral group administers the system of cumulative examinations which are given to the Chemistry students after they begin their Ph.D. program, examinations specifically designed to keep a student from becoming too narrowly interested in his own research area. Secondly the post-doctoral pool forms a reserve from which the department frequently appoints a junior faculty member.

Support of the post-doctoral fellow usually comes from the National Institutes of Health, the National Science Foundation, or from research grants. Normally his stipend also contributes at least as much as the equivalent of tuition to the University. Perhaps we should raise the questions of academic

status and of admission standards, not because there seems to be any cause for alarm, but because of the development of this category into an important place in academic training and intellectual achievement, particularly in the sciences and medical areas.

Taking into account the extraordinary development of the post-doctoral fellowship as an integral part of graduate training and preparation for future positions in the Natural Sciences, the Committee tried to inform the various departments in the Social Sciences and Humanities of the facts, and to discover what interest they might have in launching such a program. We found little if any support for the idea, probably because in these other two areas the Ph.D. degree by and large has not yet — as it has in the Natural Sciences — come to be judged as insufficient evidence of original research accomplished. For the Social Sciences and the Humanities, a Ph.D. is still a Ph.D. However, some departments did indicate that it would be a nice idea to bring back a promising Ph.D. for a year's further residence and research at Harvard within, say, five years after the award of his degree. Others (English) felt that such a program would be an irrelevant nuisance, and would lead to the publication of a lot of books that would better have been left unpublished.

We have no recommendation to make on this subject.

## Chapter IV

# THE MORALE OF GRADUATE STUDENTS

Somewhat to our surprise, we began to realize early in our deliberations that the gravest current problem in the Graduate School is the one summarized by the well-worn but convenient word "morale." A distressingly large number of graduate students find their experience at Harvard disappointing. They have little sense of belonging to a fellowship, and they keenly miss the enrichments and gratifications that consociation might offer. Their range of relationships with each other is, they believe, much too limited. But it also troubles them that their relationships to the faculty, their department, and the University are tenuous, ambiguous, and generally unsatisfactory. They had hoped that graduate student life would involve stimulating interchange, not only within the areas of their specialties but extending to other intellectual realms that interest them. They find little of the former and less of the latter. They had hoped to be regarded by the faculty as members of a scholarly company to which the faculty members themselves belong. They find — or believe they find — that they are regarded as subordinates and outsiders to be processed, graded, labeled, and sent forth. They had hoped that they would have as a group a place and a share in the departmental and University communities. They feel that the graduate student body is a fifth wheel seldom remembered when plans are considered and priorities are established.

The themes of belittlement, isolation, and neglect ran contrapuntally through the chorus of complaint. Entering the Graduate School as an élite selected from long lists of applicants, the students seemed to feel that the actual reception meant that nobody really cared for them or their opinions.

It is as if they had wandered into a society of competitive, specialized scholars who might perhaps train them to run the academic race but who refused to meet them on the ground of what is meaningful and relevant in their own lives.

No doubt some of these grievances are unwarranted or half-imaginary; others are real but beyond the reach of either faculty or department control. The transition from college to graduate school implies a certain increase in self-reliance, which is after all a cardinal scholarly virtue. Independent work is likely to be lonely work, but scholars must learn to enjoy the independence and put up with some loneliness. The transition from the happy variety of undergraduate life to professional specialization is likely to seem drab and stultifying in the early stages. Indeed some of the students we talked with objected to professionalism itself as a goal of graduate study, though it was by no means clear what goal they thought would be preferable. For our part we see no acceptable alternative to it, nor are we disposed to seek one. It is popular nowadays to assail academic professionalism for its "sterility," "narrowness," or "irrelevance." All would agree that a sterile, narrow, person without a proper sense of relevance is a defective human being, but a far worse one is a *soi-disant* scholar who does not know his business. We think that the primary concern of the Graduate School must be to create authentic professional scholars who do know their business.

As for some of the other complaints, one can understand and even sympathize, yet remain unable to meet them. Some measure of authority and hierarchy are inherent in the academic world — or in any world for that matter. If individual faculty members are overly remote or authoritarian, we can piously urge them to mend their ways, but there is no way of commanding them to do so. The detail of strictly departmental matters is also beyond the scope of our mandate. We can and do urge that departments maintain a system of consultation with graduate students on such matters as courses, requirements, and examinations. It is absurd that those who wear the shoe should not be consulted about its fit. But ultimately, after reflection and discussion, the department must do what it

thinks best; and the best may not always be the pleasantest. On the basis of our study we are, however, prepared to make certain positive recommendations that will, we are convinced, improve the atmosphere.

The evidence seems to us impressive that the present generation of students is less willing than its predecessors to accept graduate education as we have become accustomed to conducting it. The change is easier to understand if one bears in mind that students of the present generation are in certain important respects different from those of earlier periods. They are older, not in years, but in maturity, experience of life, and conception of themselves. They are of the generation whose parents, influenced by changing ideas about child rearing, made much of giving affection and declaring esteem while encouraging early independence. They are of the generation whose teachers, responding to changing ideas about education, strenuously taught them to ask questions and think for themselves while giving them increased freedom in running their own affairs. They were reared in a period when social adjustment had come to be considered a prime virtue, with consequent hastening of children into contact with other children and the early formation of a strong "youth culture." Against earlier standards, young people reared under such conditions are much further along in social and sexual experience, very likely also in the extent to which they have held jobs, traveled, and mingled with people in different environments. Often our graduate students arrive already married, looking not for the traditional room in a dormitory but for a home for their families. Having emerged in so many ways into fully adult status, they are understandably quick to feel demeaned by anything that puts them back into more juvenile roles.

These conditions of upbringing have also accustomed them to expect to be the objects of strong personal interest on the part of their elders. More intensely than ever before, their generation has been influenced by ideals which included giving children attention, taking them seriously, treating them with respect, and making them feel that they are important as individuals. A high value has come to be placed on human rela-

tions variously described as open, honest, uninhibited, and authentic (i.e., "real"), signifying a highly personal style of communication and a downgrading of everything that is formal and conventional. A common symptom of this value is the almost universal use of first names even when there are wide gaps of age and status. Students today who have been influenced by these widespread tendencies expect to have a strong personal interest taken in them, want authentic communication, and in return are prepared to be themselves authentic and communicative. Apparently these expectations are often not met in their relations with professors. As one of the students put it, "What we need is one-to-one communication." In default of this, they quickly feel that they are unaccountably not accepted.

Today's students are also of the generation nurtured to a deep distrust of authority. Psychological theories that attributed to parental power and discipline a number of injurious effects on children, such as neurotic disorder and the suppression of creativity, prepared the way for this distrust, which was then greatly magnified by the performance of totalitarian states before and during World War II. These influences conspired to make the word "authoritarian" an epithet that connotes all kinds of evil. For many people brought up in this atmosphere any exercise of power, even that of a doctor over a patient or a teacher over a pupil, creates a feeling of discomfort. To those who are strongly sensitized to this issue the hierarchical structure of a university faculty is an object at once of suspicion and resentment. One of our students declared himself unable to think of Harvard as a community of scholars and students. "It is a hierarchy," he said, "and this is the source of our graduate student problems. I feel that we are on the low end of the totem pole." He saw as a regrettable symbol of this hierarchy the fact that all members of this committee were senior professors. For many, the mere fact of hierarchy was annoying. In addition, it was seen as interfering with the open relations and personal interest that were so much desired.

Almost unanimously the graduate students described their situation as "demeaning," and singled out examinations and

grades as especially demeaning. Middle-group courses in which they were treated like undergraduates particularly affronted them, but even departmental examinations (preliminaries and specials) came in for resentful criticism. The belittling aspect of grades was not the implicit evaluation, which the students rather grudgingly admitted to be necessary, but their symbolic expression of the faculty's lack of concern. Giving grades, the students felt, allowed the teacher to avoid serious engagement with the student's ideas, excused him from making extended qualitative comments on the work done, and thus expressed his unwillingness to bother about the student as a person. As one student expressed it, "What we want is criticism, not grades. Talk to us."

We found also that many, even most, graduate students were astonishingly ignorant of what one might call the facts of academic life. Thus a highly successful graduate student in one department, already a Teaching Fellow and far along in the writing of his thesis, was astonished to learn that the professor under whose direction he was doing his work would as a matter of course prepare a long and careful evaluation of the completed dissertation for the use of the officers of any institution that might in the future wish to employ the student as a faculty member; and that this statement would be far more meaningful to the potential recruiters than any record of A's and B's that the student might have compiled in his early years in the graduate school. His pleasure at this revelation was so great that he was even prepared to concede that in that early stage those hated letter-grades might have been a useful shorthand device to let him know where he stood, and so might have been a positive advantage to him.

Others who complained that it was difficult to prepare several fields in advance for an oral examination by a committee of professors, and who demanded instead that they be allowed to prepare one field at a time for an individual examination by one professor, reconsidered when it was suggested to them that examination by committee automatically provided students with protection against the hypothetical unfair sadistic professor who might fail them ignominiously if they met him alone face to

face. On the one hand, departments should take steps to dispel such innocence. But on the other we believe also that many present departmental requirements and practices would not survive a fresh re-examination, which we also recommend.

Many students complained that they had far too little opportunity to explore fields of interest related to their own specialty but not allowed for because of over-rigorous departmental requirements. As in all other such circumstances we stoutly maintained that the only remedy for this grievance lay in the individual department concerned. Sometimes such intellectual curiosity may be dilettantism, sometimes in part at least a good excuse for not doing something important but difficult. Yet it might be more valuable to try to satisfy it than to force a student to conform to regulations that may be rigid, outmoded, or unimaginative. Also, even dilettantism has its uses. We believe that departments often could provide means for students to follow more flexible programs, and that, when they cannot in conscience do so, they often could explain their refusals more personally and therefore more convincingly than they now do.

Virtually all graduate students spoke with distaste of the atmosphere of competition that pervades the Graduate School. Some students, we were repeatedly told, would not discuss substantive or methodological questions of interest with their friends for fear that their friends might steal their ideas. Members of the faculty can do a good deal to ease this situation by providing reassurances to individual students.

We believe that a great deal of substance underlies the graduate students' bill of complaints, and that much can be done to lessen their malaise.

Before going on to examine the problems more specifically and to suggest ameliorative measures, it may be appropriate to ask whether it matters much that graduate student morale is low. We need not pause long over the first two answers that might be offered — the humanitarian answer and the educational answer. The humanitarian case speaks for itself to those who find it appealing: it seems better on the face of it that people, even graduate students, be happy rather than unhappy.

As for the educational case, there are those who think that happy students learn more than unhappy ones. But there is probably room for argument about this, and we need not insist upon it.

There is, however, a third, self-interested, and less debatable, reason for taking the morale problem seriously. The graduate students of today will be the professors and the department chairmen of tomorrow on whom we and our successors will depend to supply us with our "input" of talented students and to consume our "output" of certified scholars. Because of this they are an absolutely vital potential resource, and we cannot afford to neglect them. It is in Harvard's interest that they develop during their years here a feeling of attachment to the Harvard community that will be carried on into the future. This is at least as important as the development of such a feeling among undergraduates. But the feeling will not be generated if graduate students think of themselves as the University's step-children, if they remember their years in Cambridge without warmth.

If morale is lower than it might be, and if this is a regrettable condition, two further questions are suggested: what are the factors within our control that account for this state of affairs? and what ought to be done about them?

The most fundamental such factor is the one that has already been referred to: neglect. There are some 3,000 graduate students as against 4,800 undergraduates; yet it seems fair to say that we devote a far smaller proportion of our thought or facilities to the Graduate School than we do to the College. All members of the Committee are thoroughly committed to the Harvard tradition that the College is the heart of the University, and ought to be. But we do believe that the Graduate School merits, both in numbers and importance, more attention than it has ever received. For our 4,800 Harvard undergraduates we will soon have ten residential Houses, not to mention the Freshman dormitories in and near the Yard. The Houses are not merely buildings for eating and sleeping, they function as centers of social and intellectual activity, as communities in which a student holds membership. For the 3,000 graduate stu-

dents of today there is nothing whatever to perform these functions unless we count that owl's share of Harkness that is wrested away from the panthers of the Law School.[1] Nor do the apartments for married graduate students in Peabody Terrace, agreeable though they are, fill the gap.

Another factor that helps to explain the level of morale is, we are convinced, the size of the graduate student body. We have a strong impression that dissatisfaction is least in the smaller departments. This is not merely a question of student–faculty ratio. A department of five professors and twenty graduate students is better off from this point of view than a department of thirty professors and one-hundred and twenty graduate students, though the ratio is the same. The reason is that a group of twenty can more easily develop a sense of participation and fraternity among its members than can a group of one-hundred and twenty.

These, then, are the proximate explanations of the morale problem — or the explanations that fall within the reach of either this Committee or the faculty it represents. As we have said earlier, the explanation can doubtless be traced back to more fundamental causes in the upbringing and expectations of our graduate students and in the climate of the times. But neither the Committee nor the faculty can do anything about that. All we can offer in this connection is a plea for understanding that the current graduate generation is different and that it has been taught to expect things that we did not expect, and to resent things that we endured as a matter-of-course.

On the other hand, both the factor of size and the factor of neglect are within reach, and they ought to be grasped. We have recommended above that the size of the Graduate School be reduced. It is unnecessary to say more about that recommendation at this point except to emphasize, or re-emphasize, its immediate bearing on the problem of morale. But there are in addition certain affirmative measures we believe that Harvard should take that would bear directly on the factor of neglect:

[1] I passed by his garden and marked with one eye
How the owl and the panther were sharing a pie;
The panther took piecrust and gravy and meat,
While the owl had the dish as his share of the treat.

1. We believe that the Graduate School badly needs facilities which will enable and encourage its students to congregate. To be specific, Harvard should provide a Graduate Center. Though the Houses do perform this function for undergraduates and for the Teaching Fellows lucky enough to be attached to them, the rest of the graduate student population remains not only outside the pale but keenly aware of the contrast between the amenities provided for others and the social isolation that they recognize as their own lot. The presence among them of many Harvard College graduates only makes things worse, since these men have known at first hand the pleasures of the life in the Houses and often continue to visit and eat with undergraduate friends.

It is our unanimous conviction that such a Center is an extremely pressing need which ought to be granted a high priority in any University plans for construction or adaptation. It would provide a focal point for the feeling of community that is so sadly lacking now, a place where students could engage in joint activities and widen their circle of acquaintance and experience. It would provide opportunities for contact between students and faculty, more inviting and less formal than a Widener study or the corridors of the Holyoke Center. Equally important, the establishment of such a Center would help dispel the step-child feeling that so many graduate students now have. The University cannot persuade them that they are cherished members of the family merely by telling them so. It must provide visible and functional evidence of its concern.

None of the students we spoke to thought that the Center should be residential.[2] They thought of it as serving meals, providing space for social events of all sorts and sizes, and facilities for informal — and formal — groups to meet for discussion, to show films, perhaps to put on plays. It seemed of the highest importance to them that it be in or very close to the Yard. They thought that its success would depend largely upon its convenience. It should be planned by graduate students to serve their needs and those of future graduate students in a flexible way. It should be run by graduate students for

[2] See the Appendix to this Chapter.

each other. There might perhaps be a few bedrooms to provide quarters for speakers or other guests from out of town, but otherwise there would presumably be nobody in residence except perhaps for a succession of graduate-student-managers.

If it is for some reason impossible to create such a Center in the near future, the University might as a temporary alternative establish several scattered smaller gathering-places. How many, would depend on space, resources, and other considerations. But they ought to be substantial enterprises, not token arrangements for coffee or coke machines. Nor should they be strictly departmental or even restricted to graduate students in particular academic areas. The aim should be for a mixture of students from various disciplines, drawn to the gathering-place partly because it is geographically near their usual stamping grounds but chiefly because of its congeniality.

2. We urge that all departments without exception undertake as soon as possible to review their present grading practices and curricular requirements in consultation with individual graduate students and groups of graduate students. Certain departments are already so engaged. Even if a department finds that nothing in its present practices needs to be changed, such a review — we know — would have the enormous benefit of explaining and even demonstrating to the graduate students why the present practices are useful, even valuable to them. We think, however, that it may be possible in many cases to minimize routine requirements, to cut down letter-grading, to accompany all necessary letter-grading by careful explanations of the judgments reached, and to reach a greater degree of flexibility in arranging for individually tailored doctoral programs.

3. The departments can and should inaugurate various measures to make graduate students realize that they are citizens rather than subjects of the departmental community. There ought to be machinery for regular consultation with graduate students on all matters that affect them, and the consultation should not be confined to grievances that the students present on their own initiative. Their counsel should be actively solicited.

Every department should select a member to perform the

function of graduate-student adviser. Except in the smallest departments, this function cannot be performed effectively by the chairman. The students should have their own man whose primary administrative role is focused on them. A junior faculty member may be able to fill this bill, but not if he is himself excluded from important departmental councils. In some departments an influential and interested secretary has played the part effectively. In others the weight and authority of a senior member may be needed. The vital thing is to make sure that the arrangement works to assure the students of departmental attention and respect.

That assurance can also be strengthened by other and more individual advisory arrangements. While many departments assign a professorial adviser to each entering student, this relationship seldom amounts to much. It might be better (assuming that central departmental advisory machinery does exist) to assign seasoned student advisers to new students. This seems to have worked well in departments (e.g., Chemistry) that have tried it. The experienced student can probably give more useful informal counsel than professors who have forgotten the rules; and the graduate adviser can be resorted to when rules must be called into question.

Each entering student should also receive, on or soon after admission to Harvard, a personal and informal letter from his department welcoming him and offering him such preliminary advice and information as he may need about Harvard in particular and academic practice in America in general. Our departmental pamphlets setting forth departmental rules and requirements are cold, legalistic documents; and the letter from the Graduate School notifying a student of admission cannot, in the nature of the case, concern his personal relationship with the department he will join. We go to vast trouble to choose these men and women. We should let them know at the outset that we are as interested in them as they are in us. This letter, explaining the reasoning behind the rules and requirements, will go a long way toward dispelling unnecessary mystery.

Finally, we think there is much to be said for the appointment of graduate student "ombudsmen," particularly in the

large departments. It is our impression that they ought to be experienced and strong-minded graduate students; of course they ought to be compensated for taking on the responsibility and provided with office space and facilities.

4. There is a certain kind of device for enriching and d ify-ing the graduate educational experience which is hard to name or classify but which seems to us very promising. One form it takes is the "workshop," i.e., a small community of students with similar academic interests, probably clustering around one or more professors, but also deriving stimulus and a sense of purpose from students' long-run association with one another. Another form seems typical of the sciences, where it appears to be common for such groups to take early shape in a given professor's laboratory. The point is that there must be a direct and shared working relationship with a professor; that a sense of group membership must be generated; and that this should all occur as soon as possible in the graduate student's career. Most departments at Harvard cheerfully maintain tutorial for undergraduates, an extremely expensive and time-consuming but also often very gratifying educational arrangement. We have in recent years established "freshman seminars" to bring even younger undergraduates into early working contact with faculty members. It is characteristic of us that we have given little thought to analogous devices for graduate students who surely need such benefits just as much.

We strongly urge departments and individual faculty members to consider the establishment of such enclaves. It is perhaps worth noting that a physical location may be a near necessity for bringing one into being. Professor Gerschenkron's "Economic History Workshop," which might be regarded as a prototype, had its own quarters and enjoyed a foundation grant.

5. In the Natural Sciences it is often possible for a graduate student, working in association with one or more senior members of the faculty, to make a significant contribution to knowledge, to share in preparing and publishing the results of their joint experiments, to sign the publication as a co-author, and so, at an early stage of his graduate career, to feel himself a part of the learned world. This is much rarer in the Social

Sciences and Humanities. Occasionally a graduate student may produce a seminar report that can be and eventually is published, but this remains an exception.

However, in these other areas a few recent undertakings have achieved results similar to those in the Natural Sciences, and we believe the faculty should know about them. For some years the graduate students in Russian History have been publishing, with the advice of Professor Richard E. Pipes, a journal called *Kritika*. To it they contribute reviews of current Soviet scholarly works in any field of Russian history, works which they would usually have been reading in any case as part of their preparation for examinations or for the writing of their theses. The reviews are often longer than those in ordinary scholarly journals, and the students rigorously criticize one another's contributions before publication. Modestly but attractively produced, *Kritika* has a wide and appreciative audience in this country and abroad, notably in the USSR itself. Occasionally a review of a book by a Harvard graduate student has elicited a response from the Soviet author, and a beneficial interchange has followed. Started by a small grant from the Russian Research Center, the journal is now self-supporting and has commanded the enthusiastic support of several generations of graduate students in the field. Similar, but given less wide circulation, are the *China Papers* produced by graduate students in Chinese history, which are dittoed, rather than printed, since most of them are deemed perhaps not yet worthy of more permanent format; but they do go to other libraries and prove to the students themselves that, even in this extremely difficult field with its sources in languages that are hard indeed to master, it is possible at a relatively early stage to make valuable contributions.

We think that members of the faculty and graduate students would agree that other similar efforts, perhaps parallel in some respects and different in others would almost surely prove possible. All that is needed is the proper mix of eager graduate students who take the initiative with benevolent and rigorous faculty members who offer time, encouragement, and criticism. Small subsidies can usually be found. We are far from advo-

cating the mushroom growth of sub-scholarly periodicals, of whose contents their authors may later become ashamed. But we can testify that when properly managed, these efforts help make early and careful and unpretentious scholarly publication a reality, and so contribute simultaneously to knowledge, to the education of their authors and editors, and to morale generally.

# APPENDIX

## Excerpts from a Letter Addressed to the Chairman by a Current Graduate Student

Oct. 18, 1968

Briefly, my own tentative thoughts as to the function and nature of a new center are the following. First, let me call it not a union or center but the Graduate House, and this not for sentimental reasons but because the Houses, for both undergraduate and graduate students, are by and large beneficent, non-bureaucratic institutions which do succeed in bringing students and faculty together into social and intellectual society. This does not mean that the Graduate House must have a master, senior tutor, and other appurtenances of the undergraduate Houses; only that, from the beginning an effort would be made to utilize those aspects of the existing Houses which have already proved their value.

Second, and I believe this is perhaps the single most important condition, let me put the House in or just off Mass. Ave. and Harvard Square, as near to Widener and the present acting graduate center — the University Restaurant — as possible. In my opinion, all the money, ping-pong tables and good will in the world cannot make the House successful if it isn't located in this area.

I assume that a residential House is out of the question, and perhaps it wouldn't be a good idea anyway, but in other respects I would try to locate as many normal activities of graduate students in the House as possible: dining; relaxation; a few sports, perhaps; a magazine reading room, certainly. Less obviously, there would be offices for teaching fellows (here Holyoke Center is an example in foolish saving of money and space *not* to be followed), lock-up carrels for first and second year students (a way of relieving the crush in the Widener stacks), a general library somewhat larger than the undergraduate House libraries, possibly even relocation of the special tutorial libraries from Widener or creation of smaller new ones. By thus bringing the fundamentals of graduate life — study

and teaching — into the center, I assume there would be little chance that other facilities would ever be left unused. (Doing this for science students is a more difficult problem that I will leave to one of them.)

As to the special attractions of the House, I think it is important to plan in such a way that the House can be adapted easily to the changing interests of different generations of graduate students. At least three general aims strike me, however, as fairly fundamental. First, students will wish some informal facilities for meeting others in their departments or areas of interest, if only pleasant places near their studies and carrels to chat during coffee breaks.

Second, there should be facilities for activities of inter-departmental or extra-curricular kinds: halls and classrooms for lectures and non-credit courses; a coffee room, a bar (better yet a kind of café for both with snacks as well), workshops of various types, and a small cinema-theatre, for meetings, talk, mixers, film clubs, sewing circles, theatre groups and what-not. Then add to this a slush fund like that available to House masters so that whoever runs this monstrosity of mine (I take it the students do) can adapt it to new interests as they arise.

Finally, I assume that the House would hope to promote a greater degree of student–faculty contact; and here I would suggest that the Graduate House follow the fairly successful undergraduate example and start with a group of affiliated faculty who know that they belong (and wish to) as a kind of graduate tutorial staff. But I would let this group grow to any size that faculty interest should swell it, and extend an invitation to all other faculty members to come and use the facilities as they wish. Perhaps too, there might be some provision for residences within the House for staff members and itinerant lecturers, bigwigs, or artists.

All this, I am afraid, is just one way, and possibly a fairly idiosyncratic way of envisioning a utopia of graduate students in Harvard Square, and a way, too, that would undoubtedly cause the Faculty of Arts and Sciences to dip a good deal further into their red inkpot in the next few years. But whatever the feasibleness of such a suggestion, I hope these notes may be of some use to yourself and your committee.

Please let me know if I can be of any help to you in any other aspect of your inquiry.

## CHAPTER V

# TEACHING FELLOWS AND GRADERS

The morale of the Teaching Fellows represents a special case of the general problem of graduate student morale and we have therefore chosen to treat it separately in this section. We also discuss graders, and make an additional recommendation with regard to them.

Teaching Fellows themselves believe, as indeed do most departmental chairmen, that undergraduate education could not go on without them, and that they therefore should be regarded not as pieces of machinery but as junior colleagues of the faculty. They frequently do not see such acceptance reflected, however, in any interest in helping them to become better teachers, in taking their ideas seriously, in consulting them about their students, or in admitting them to departmental councils on curriculum and educational policy. They feel demeaned by any suggestion that a Teaching Fellowship is a privilege or a financial aid rather than an honorable mark of acceptance into the community of teachers. They think that their compensation, which — they maintain — has lagged markedly behind that of other ranks, is both incommensurate with their responsibilities and indicative of the neglect that reveals itself in other, less tangible ways. Finally, they complain about the helter-skelter system — or lack of system — that permits notable disparities in the duties of Teaching Fellows from one department to another. They want a uniform standard throughout the Graduate School that defines as precisely as possible the amount of time that constitutes "a fifth."

We are emphatically not prepared to make recommendations for a change in the present structure ("hierarchy") of the Uni-

versity. The faculty's recent response to the report of the Dunlop Committee showed that such changes can be recommended when necessary. Indeed, we do not share the notion — voiced with vehemence by several Teaching Fellows — that an academic hierarchy is, *per se*, unfair and obsolete. On the contrary, we think that it fairly represents the differences — in age, experience, and scholarly distinction — between various segments of the faculty, and that it, or something like it, is essential to the complex workings of the University. This is not to say, of course, that complaints about the inequities and rigidities of a system that should be supple and responsive to our academic needs should not command attention. Indeed, we are convinced not only that certain reforms are overdue, but that the Teaching Fellow system itself, in order to fulfill its varied functions, should be the object of continuing scrutiny and of progressive adaptation to the ever-changing facts of academic life.

In the spring of 1967, about 500 Teaching Fellows formed a "Federation," and asked the administration for increased compensation and an "equitable" definition of a fifth-time teaching load. In the course of inconclusive negotiations between the administration and the steering committee of this Federation, the administration asserted that the Teaching Fellowship should be viewed primarily as "an educational matter" rather than "a contractual matter concerned only with services and pay." Whereas such a pronouncement may have been designed to restrict and raise the level of discussion, it could scarcely be expected to meet the claims of the Teaching Fellows: that their compensation had not kept pace with that of other sections of the junior faculty, that the disparity between Harvard salaries for Teaching Fellows and those of other institutions were far greater than in the other ranks, and that Harvard's scale for Teaching Fellows was markedly lower than that of other institutions in the Boston area for teachers of similar qualifications performing comparable functions.

In the light of evidence that we ourselves assembled during the academic year 1967–68, and of data in the report of the Dunlop Committee, we were certain that the Teaching Fellows

had a powerful case. Consequently, we were highly gratified during the summer of 1968 when Dean Ford recommended — and the governing boards approved — an increase in the salary scale of Teaching Fellows retroactive to July 1, 1968.

The increase moved the salaries of Teaching Fellows at the junior base rate from $4,400 to $5,500, and at the senior base rate from $6,000 to $7,000. Most present Teaching Fellows teach two-fifths or three-fifths time. Therefore, in practice the increase for those Teaching Fellows at the senior rate (1,108 in number in 1967–68) has usually meant cash increases of $400 (two-fifths time) or $600 (three-fifths time) per year; and the increase for those at the junior rate (353 in number in 1967–68) has meant cash increases of $440 and $660 per year. While we recognize that the Dean of the Faculty made "this increase even in the face of a very large budgeted deficit," we agree with him that the increase could do little more than "keep up with the cost of living for men in this rank," [1] and we believe that more is needed soon.

With regard to the estimate of what actually constitutes a fifth or a fourth of a Teaching Fellow's time, there is wide variation from department to department. We know that no one trimly tailored system can accommodate the varying needs of thirty-odd departments and committees. We know also that the Dean of the Graduate School has repeatedly (in 1958, in 1961, and most recently on September 26, 1966) wrestled manfully with this problem, and issued manifestoes on "the rate of work for Teaching Fellows." Yet these pronouncements have proved inadequate.

The rate of pay for graders in courses also constitutes a separate problem. Until the present academic year (1968–69) the base rate was, as it had been for a long time, $5.00 per student per term, with $4.00 paid in courses requiring only grading of final examinations, and $6.00 in courses "requiring an unusual amount of work and skill from graders (if application for this is approved by Dean Elder)." In 1968–69 the base rate was raised to $7.00 per student per term, and $6.00 and $8.00 be-

[1] Quotations from Dean Ford's memorandum to department and committee chairmen of September 18, 1968.

came the permissible variations according to the formula above.

The Committee believes that the raise was not large enough. On the one hand, our undergraduates properly clamor for detailed written comments on every examination and term paper, and resent the "B" or "C" unaccompanied by explanation and advice. On the other, even the present rate of pay makes it extremely difficult for a grader to give the time necessary to write such comments without performing sweated labor.

The Committee recommends:

1. That as soon as possible the administration institute a further raise in salary for Teaching Fellows, from $5,500 to $6,500 for the junior grades and from $7,000 to $7,500 for the senior grade. It is clear to us that the base rate for senior-grade Teaching Fellows should not be higher than $7,500, the new full-time basis for the "Instructor."

2. That the Dean of the Faculty appoint a committee, to include the Dean of the Graduate School, the Director of the Program of General Education, and at least one senior faculty representative and one Teaching Fellow from each area (the Natural Sciences, the Social Sciences, and the Humanities) for the purpose of keeping under constant scrutiny the actual demands made by the different departments upon the Teaching Fellows, in order that so far as possible "uniformity of fifths" may be maintained; and that, in those inevitable instances where it is not maintained and inequity appears, such inequity may be rapidly discovered and remedied. Teaching Fellows should be informed that all questions and complaints about their rates of work should be referred to this committee.

3. We have been gratified to learn that in the Program of General Education, Teaching Fellows are participating in general policy discussions, and urge all other chairmen to follow suit promptly. Depending on the size, resources, and constitution of the department — and there would, of course, be variations — these procedures might include regular meetings between the Teaching Fellows and older members on problems of sections and tutorial, participation by Teaching Fellows in discussion of new appointments to their own ranks, and the use of older Teaching Fellows as counselors to their junior

colleagues. Whatever could be done to engage the Teaching Fellows in the work of the department, and thus to give them a sense of its corporate identity and responsibilities would, we think, be movement in the right direction.

4. We think that all departments — and indeed all members of the teaching staff — should be prepared to respond affirmatively to any request that may come to them from Teaching Fellows individually or in groups for discussion of pedagogical problems in general, and in particular of those problems likely to face teachers at the outset of their teaching careers.

5. We recommend that on 1 July 1969 the administration raise the rate of graders to $10.00 per student per term, with the prospect of a further increase as soon as practicable, and that permissible variations be set at $9.00 and $11.00.

## Chapter VI

# SUMMARY OF RECOMMENDATIONS

*Size of the Graduate School*

1. The Committee finds that the size of the Graduate School should — over the five-year period 1970–1975 — be reduced from a present total of more than 3,000 students by at least 20 per cent, with 2,400 students as the goal for the year 1975–76.

2. All departments except for some specifically mentioned (see pp. 15–16 above) should, for a five-year period beginning in 1970–71, admit no more new students in any year than those admitted in the "minimum" year, that year between 1960–61 and 1967–68 when the department registered the fewest new students.

3. Any department that in any year between 1970–71 and 1974–75 actually registers new students in a number beyond that anticipated in Table 3 in Chapter II above, page 22, should cut its admissions for the next year correspondingly.

4. Any department for which hardship is created by the application of these precepts should seek relief by consultation with the Dean of the Faculty.

5. Any department whose admissions have remained stable since 1960–61 should now consider whether it may wish to reduce its numbers of new students beginning with 1970–71.

6. The number of new graduate students admitted to any new interdepartmental degree program begun during the years 1970–1975 without the addition of permanent new faculty appointments, should be compensated for by corresponding cuts in the admission of new students by the participating departments.

7. Wherever possible, departmental admissions officers should make the new cuts especially among students who are clearly moving into sub-fields already overcrowded.

8. Professors with unusually heavy burdens of thesis-direction should reduce the number of theses they undertake to direct.

9. Departments should try to redistribute the privilege and burden of thesis-direction by encouraging candidates to move into less crowded fields, or, if necessary, by eventually re-allocating their permanent appointments.

*Admissions and Financial Aid (all recommendations to take effect in 1970–71)*

10. The Dean of the Faculty should consult with any department or committee that would like to experiment with interviewing here or elsewhere some or all of its prospective graduate students, and should provide funds for such an experiment.

11. All offers of Harvard financial aid to first-year students should be accompanied by explicit assurance that the aid will be renewed in the second year, provided that the student has maintained satisfactory progress toward the Ph.D. degree.

12. As soon as possible the University should establish a five-year guarantee of financial support for all Ph.D. candidates with Harvard aid who maintain such progress.

13. The Committee on Fellowships and Other Aids for Graduate Students should move at once toward making the necessary investigations and formulating the recommendations that will make possible such a five-year guarantee.

*The Morale of Graduate Students*

14. Harvard should provide a Graduate Student Center, to be planned and managed by graduate students for graduate students.

15. All departments should review their present graduate requirements and grading practices in consultation with graduate students, with a view to minimizing routine and reaching new flexibility whenever that is desirable and possible.

16. Each department should appoint a faculty member, not the chairman, to act as graduate student adviser, who should be available to discuss with graduate students anything that they wish to discuss. In addition, some departments may wish to consider assigning experienced graduate students as advisers for new graduate students.

17. Each department should send to each newly accepted student a personal and informal letter explaining how he was selected, and discussing what the departmental pamphlet really means: why its requirements are desirable, what is the nature of research, and what academic life is all about.

18. Wherever possible "workshops" — as defined and discussed above (page 59) — should be founded and encouraged.

19. Departments should be alert to all possibilities for enabling graduate students to become part of the scholarly world as early as possible, especially by encouraging scholarly publication.

*Teaching Fellows, Graders*

20. As soon as possible the base rate of pay for Teaching Fellows should rise from $5,500 to $6,500 for the junior grade and from $7,000 to $7,500 for the senior grade.

21. The Dean of the Faculty should appoint a committee to maintain equity in the workload of Teaching Fellows, and to correct inequities when they are found. It should include the Dean of the Graduate School, the Director of General Education, and at least one senior faculty member and one Teaching Fellow from each of the three areas.

22. Each department should institute procedures for engaging Teaching Fellows more directly in the work of the department.

23. Members of the faculty should be prepared to respond affirmatively to requests from Teaching Fellows for the discussion of any pedagogical question.

24. On 1 July 1969 the administration should raise the rate of pay for graders to $10.00 per student per term, with the prospect of an additional raise after another year, and the permissible variations set at $9.00 and $11.00.

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March 1969